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ABSTRACT

The study investigated interpersonal space among black and white Midwesterners as perceived through photographs. The stimuli consisted of four sets of photographs showing teacher-student dyads in spacings ranging from 12 to 84 inches. There were four models: white teacher (W), white student (w), black teacher (B), and black student (b). The photos depicted Ww, Bb, Wb, and Bw dyads. All subjects, 24 of each race, viewed all pictures. For each set, they made three judgments, choosing the pictures which represented to them: (1) the most appropriate spacing, (2) enough forward movement to change the interaction, and (3) enough backward movement to change the interaction. Main results were: (1) in all three choices blacks placed less space between interactants than whites, and choices 1 and 3 were significantly different; (2) when interactants moved close enough together so that respondents thought it would make a difference in their communication, there was no general agreement on the meaning of that close distance; (3) when they moved far enough apart to make a difference, the meaning communicated was negative; (4) two measures of actual proxemic behavior were taken, one of which significantly correlated with the stimulus choices; (5) there was a suggestion in the data that blacks use spatial manipulation more than whites during a conversation to punctuate various changes in content and context. (Author/JM)

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AN INVESTIGATION OF THE PERCEPTION OF PERSONAL SPACE AND ITS MEANING AMONG BLACK AND WHITE AMERICANS

by

Patrick R. Connolly

An Abstract

Of a thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Speech and Dramatic Art in the Graduate College of The University of Iowa

July, 1973

Thesis supervisor: Assistant Professor James J. Bradac

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ABSTRACT

The study investigated interpersonal space among Black and White Midwesterners as perceived through photographs. The stimuli consisted of four sets of photographs showing teacher-student dyads in spacings ranging from 12 to 84 inches. There were four models: White teacher (W), White student (w), Black teacher (B), and Black student (b). The photos depicted Ww, Bb, Wb, and Bw dyads. All subjects, 24 of each race, viewed all pictures. For each set they made three judgments, choosing the photos which represented to them: 1) the most appropriate spacing, 2) enough forward movement to change the interaction, and 3) enough backward movement to change the interaction. They were asked to furnish information about the changes associated with the latter choices. They rated the personalities of the models. Finally, measurement of their actual proxemic behaviors were obtained and correlated with their choices.

After reviewing the literature, six hypotheses were presented. (1) Black subjects judging the Bb dyad would choose photographs with greater distance between the interactants than White subjects judging the Ww dyad. (2) Whites would judge both the Bb and the Ww dyads by

one code, while Blacks would judge the Bb dyad by the Black code and the Ww dyad by the White code. (3) All subjects would choose photographs with greater distance between the interactants for the mixed-race dyads in which their opposite race was dominant than for the same-race dyads. (4) In the mixed-race dyad in which a Black was dominant, Black subjects would choose photographs with diminished space between the interactants, thus there would be a significant difference between the Black subjects' choices for the Wb and Bw dyads and (5) between the Black and the White subjects' choices for the Bw dyad. The final hypothesis (6) was that there would be a direct relationship between actual proxemic behavior and the choice of photographs. Only the last two hypotheses were confirmed, and in the case of hypothesis 6 the confirmation was only partial.

Main results were: 1) in all three choices Blacks placed less space between interactants than Whites, choices one and three were significantly different; 2) when interactants moved close enough together so that respondents thought it would make a difference in their communication, there was no general agreement on the meaning of that close distance; 3) when they moved far enough apart to make a difference the meaning communicated was negative; 4) two measures of actual proxemic behavior were taken, one of which significantly correlated with the stimulus

choices; 5) there was a suggestion in the data that Blacks use spatial manipulation more than Whites during a conversation to punctuate various changes in content and context.

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PH.D. THESIS

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CHAPTER I

INTRODUCTION

> As we drove more deeply into Mississippi, I noted that the Negro comforted and sought comfort from his own. Whereas in New Orleans he paid little attention to his brother, in Mississippi everyone who boarded the bus at the various little towns had a smile and a greeting for everyone else. We felt strongly the need to establish friendship as a buffer against the invisible threat. Like shipwrecked people, we huddled together in a warmth and courtesy that was pure and pathetic.
>
> The threat grew as we penetrated deeper toward the center of the state. The distance between the whites and blacks grew tangibly greater, even though we saw only the backs of their heads and shoulders, their hats and the cigarette smoke rising from them as night fell and bus lights were switched on.[1]

These words were written in the late 1950's by John Howard Griffin, a White who treated his skin and entered the Black community. For the social scientist who is interested in communicative behaviors, reading Griffin's words raises questions. He is obviously speaking about space in a metaphorical way. The fixed seating of a bus allows very little opportunity to "huddle together," although the Blacks were, by custom, relegated to one portion of it. Nor could the actual physical distance between the Blacks and Whites become greater during the bus ride. But what happens to these persons when they

leave the bus? What will be their spatial relationships? Could it be that Blacks, who have habitually been an oppressed minority in the United States, have learned to express this relationship through their use of space by standing closer to one another and farther from Whites? How do Blacks and Whites use space within their respective groups and across racial lines? It is this area of study which the present project explored.

This dissertation is an attempt to systematically investigate one aspect of nonverbal communication among Black and White Americans. It looks at their judgments about the use of personal space when conversing in a standing position. A series of photographs were shown to Blacks and Whites. The photographs depicted two persons standing and talking. These photographs differed in two ways: first, the distance between the individuals depicted varied; second, the racial make-up of the pairs in the photos varied.

Theory has indicated, and research substantiated the fact that different cultural groups use space differently. Research has also shown other verbal and nonverbal differences between White and Black Americans. This project is a study of one type of nonverbal behavior, spatial manipulation.

There are five goals in doing this study. The first is to map behavior patterns. There are adequate

reasons to expect that some differences exist, and it is worth the effort to map those differences. The second aim is to accomplish a preliminary step in theory building. Those who use an inductive approach to building theory record many instances of phenomena, mapping the differences and the similarities. The theorist then attempts to explain those isolated reports within a systematic and consistent theoretical framework. This study searched for differences and similarities in the use of interpersonal space in order to further test the theory which already exists and as a preliminary to creating a more complete theoretical understanding of how man uses that space, especially how he uses it communicationally.

The third aim is more practical. Such spatial behaviors probably influence the perceptions of the interactants. Their feelings about each other, and consequently their communication with each other, are cued partly by the nonverbal elements of the interaction. Thus, in their day-to-day relations it would be socially useful for Black and White Americans to know as much about each other's use of space as possible in order to prevent the misinterpretation of such cues.

The fourth goal of this study is to further research in the specifically communicative aspects of spatial behaviors. Little has been done so far to determine what the meaningful units of space are for various

groups. If, indeed, groups use space differently, how do they divide this space into meaningful units? What are the boundaries of the various units so defined? It is with questions such as these that the building of a theory of spatial manipulation as communication can begin.

The final aim in undertaking this study is to determine the utility of its particular method for probing man's use of space. That is, the study seeks to determine whether data can be gathered about the use of space by confronting a person with photographs of other persons interacting and then asking him to make comparisons among the photographs which he has in front of him. If the method works, it is a relatively uncomplicated and inexpensive way in which to gather such data.

With these various aims, then, this study was undertaken. It is reported in five additional chapters, discussing respectively: 1) the research leading up to this work, 2) the hypotheses generated from that research, 3) a detailed explanation of the method used, 4) a presentation of the results, and 5) a discussion of the meaning and implications of those results.

FOOTNOTES

[1] John Howard Griffin, Black Like Me (Boston: Houghton Mifflin, 1960), p. 65.

CHAPTER II

THEORETICAL AND EMPIRICAL BACKGROUND

In order to put this study in perspective it is necessary to review the theory of Edward T. Hall and the empirical research growing out of that theory.

Theoretical Framework

Edward T. Hall has provided a provocative theoretical framework into which this study fits. Two basic premises underlie Hall's work. The first is that different groups of people "inhabit different sensory worlds."[1] The common sense notion would have it that while people may speak different languages, there is a common fund of human experience. Hall disagrees with this notion to the extent of saying that if there is such a common fund, it is very small indeed, for much of our experiencing of the world around us differs. Hall's second premise is that culture is a communication system. Culture is the communicator of the special sensory world within which a particular group of people lives. For purposes of this study, culture can simply be defined as the middle level of human experience lying between idiosyncratic or personal experiences and pan-human or universal experiences.

Culture is the level of experience which is shared by an entire group. There is obviously a great deal of ambiguity in this use of the word "group," but it is there on purpose. The ambiguity is meant to leave open such questions as the group's boundaries: Who forms a particular culture? It also leaves open such questions as the overlapping of groups: Is this a subculture of some larger culture? Suffice it to say that there are cultural groups and that these groups mediate the experience of the phenomenal world.

Hall divides the total cultural communication system into what he calls "primary message systems." There are ten of these,[2] one of which he calls "interaction." He defines interaction as "the underlying irritability of all living substance. To interact with the environment is to be alive."[3] The clearest example of interaction in Hall's sense is language. Other examples are paralinguistic and kinesic phenomena. The nine remaining "primary message systems" are mainly nonverbal, though of course they affect the verbal system directly. These other systems are: association--behavior patterns of social organization within the species; subsistence--behavior patterns rooted in the basic needs for food and shelter; bisexuality--behavior patterns based on one's maleness or femaleness; territoriality--behavior patterns rooted in taking possession of, or using, a particular

geographic area; temporality--behavior patterns based on one's perception of time and of timing; learning--behavior patterns designed to pass on to others one's previously acquired adaptive strategies; defense--behavior patterns through which man copes with the hostile forces he encounters in the environment; play--a late developing adaptive mechanism whose function is as yet undefined; and exploitation--the specialized extension of the organism and the resulting behaviors through which the environment is manipulated. Out of these ten message systems, this study focuses on territoriality. The territoriality message system is a large one, however, and this study concerns only one part of it--personal space. This particular aspect of territoriality is probably the most investigated of any of the areas which Hall's theory has opened for further study. Such study has become widely known as "proxemics," which is:

> the study of how man unconsciously structures microspace--the distance between men in the conduct of daily transactions, the organization of space in his house and buildings, and ultimately the layout of his towns.[4]

Hall has designated eight dimensions for personal space: 1) posture, 2) axis (i.e. the alignment of the shoulders), 3) interaction distance, 4) touch, 5) eye contact, 6) heat radiation, 7) smell, and 8) loudness of voice.[5] Of these eight, interaction distance has received

the most attention, and it is this variable upon which the current study focuses.

Hall points out that the study of proxemics is rooted in the evolutionary origins of human beings.[6] These origins are reflected in the physical spacing used by lower mammals. Three distances have been observed in animals: 1) flight-fight distance, the distance at which an approaching stimulus object becomes sufficiently threatening to make an animal flee or begin to attack; 2) social distance, the distance beyond which an animal is isolated by being out of contact with others of its kind, and 3) personal distance, the normal spacing which animals maintain among themselves such that beyond it they are not engaged in specific interaction, and within it they are specifically involved with each other. For purposes of this study the concepts of social and personal distance can be considered in terms of human behavior though at the human level they are much more complex. Consider, for example, two or three strangers waiting for an elevator. Ordinarily, they will be standing somewhat spaced apart in a lobby or hallway with no noticeable signs of tension. They are maintaining social distance. When the elevator comes, the people step on, and immediately they begin to exhibit mild symptoms of tension. Their stance is slightly more rigid. They usually stand facing the door so as not to engage each other's eyes. Most of the time they will

busy themselves watching the floor indicator tick off its numbers. The apparent reason for this mild exhibition of tension is that they have entered into one another's personal zone while at the same time they are not prepared to engage one another at the personal level. A mechanism such as Goffman's "civil inattention" is one way of handling the situation in which one is "too close for comfort."[7] One compensates for being too close physically by politely focusing his attention away from the person or conversation at hand.

Hall indicates that there are at least three kinds of proxemic space: 1) fixed feature space, 2) semi-fixed space, and 3) dynamic space.[8] These categories can be explained in terms of two people in an office. The walls of the room create the fixed feature space, the arrangement of the furniture in the room provides the semi-fixed space, and the positionings of the occupants are the dynamic dimension of space utilization. Each of these spatial elements will influence the ensuing interaction. It may mean one thing if the occupant of an office stays behind his desk as you enter, whereas it may mean something quite different if he comes out from behind the desk to interact.

This example suggests some of the complexity of proxemic meaning. When a person walks out from behind his desk the meaning depends on the context, or rather

on a series of contexts ranging from the cultural down to the interpersonal. For a person to come around from behind a desk in the American cultural context usually is a sign of warmth, friendliness, or candor. However, if in this specific interpersonal context the last thing the man behind the desk had said at their previous meeting was, "If I ever see you again, I'll knock your block off," then his coming around the desk may indicate anything but warmth and friendliness.

The code of personal space is a learned one, and meaning very often can be unclear especially when different codes are in operation:

> Personal distance in man varies from culture to culture, and is cause for considerable marginally-felt discomfort, irritation, and some misunderstanding between people. People reared in cultures where the distance is shortest will be perceived as 'pushy' by those with a longer personal distance. On the other hand, people with a long personal distance will be seen as cold, aloof, and withdrawn or standoffish by the individual with a short personal distance, simply because they cannot be approached closely enough for him to become involved with them.
>
> All of this would be of little consequence if it were not for the fact that studies in personal distance already indicate that space transcends simple matters of comfort and communication distortions. There is evidence that too much overlapping of personal distance over a period of time--in the absence of radical changes in the communication systems employed by the organism--can have serious pathological consequences in the physiological, social and behavioral spheres.[9]

The meaning of personal space behaviors is, then, an important element in communication. This study will investigate

the personal space codes of two cultural groups, Black and White Americans, in order to determine whether they perceive the use of dynamic personal space differently. If they do, such differing perceptions could contribute to distortion of meaning in communication.

Previous Research

Aspects of proxemic difference have been studied, both experimentally and in the field, using various techniques. Robert Sommer was among the first to attempt such studies. Much of his research is summarized in Personal Space: A Behavioral Basis for Design. Sommer began by studying patients in the wards of mental hospitals. He found that by sitting down within six inches of a solitary male patient who was not engaged in any specific activity--by intruding into his personal space--he could affect his behavior. Within two minutes, one-third of the patients moved away. In less than ten minutes, over half left. Among similarly situated patients whose personal space was not invaded, only eight per cent left within the first ten minutes. This sort of experimental manipulation was repeated in other settings, such as a college library, with similar results.

In later studies persons were given diagrams of various table and chair positions and asked how they would use them for different purposes. For example, they were

asked to imagine themselves seated at a table and interacting with another person. The subjects were asked to indicate in what positions they would seat themselves for various types of tasks. The general results were as follows:

> A. Rectangular Tables. Each student was asked to indicate his own seating and that of a friend on diagrams showing a rectangular table. . . . Students overwhelmingly chose a corner-to-corner or face-to-face arrangement for casual conversation. . . . The explanations emphasized both physical proxemity and visual contact in these arrangements. The students selected a side-by-side arrangement for cooperative activity and explained that it was easier to share things this way. Competing pairs generally chose face-to-face seating, although some used a distant seating pattern. Those who chose the face-to-face arrangement maintained that this stimulated competition. Various distant or catty-corner arrangements were selected by students who worked separately at the same tables (co-acting pairs). The students cited the minimal eye contact in the catty-corner arrangement--e.g.: "It allows staring into space and not into my neighbor's face."
>
> B. Round Tables. A similar questionnaire was used with another group, except that a diagram showed round tables surrounded by six chairs. Most pairs who wanted to converse or work together used adjacent chairs. Again the reasons emphasized psychological closeness. . . . The competing pairs chose to sit directly across from one another to keep from seeing each other's work, and to stimulate competition by being able to see how the other was doing. The students working separately left empty chairs between one another.
>
> C. Psychological Intimacy. A question of some relevance in seating behavior is the psychological closeness of different arrangements. We asked groups of approximately 100 college students each in the United States, England, Holland, Sweden, and Pakistan to rate a series of 37 arrangements of pairs seated at square, round, and rectangular tables along a scale

> from 'very intimate and psychologically close,' to 'very distant and psychologically remote.' The rank order of closeness was identical in all five countries.
>
> D. Distance and Intimacy. Russo [Sommer's assistant] asked students to rate diagrams of seating arrangements at a rectangular table. . . . She found that increased distance produced ratings of less acquaintance, less friendliness, and lower talkativeness, except where increased eye contact counteracted the effects of increased distance. Even though the physical distance was greater between two people at the head and foot of the table, there was more psychological closeness between them than between people in a diagonal arrangement. The cultural influence of the head position was evident on the equality dimension. When one person was at the head of the table, the pair was considered less equal than if both members were at the ends of the table or both were at the sides.[10]

Thus, from Sommer's findings we can see that the use of personal space is quite complex. The type of task or amount of eye contact possible can cause that use to vary. Not only physical distance must be considered, but also what Sommer calls "psychological distance." And, finally, such cultural factors as the significance of a certain position enter in.

In another study Watson and Graves sought to pursue the cultural aspect of the question further.[11] In addition, they chose to work with interacting dyads. They investigated how dyadic groups from two different cultural backgrounds, Arab and American, would seat themselves. Observing their subjects through a one-way mirror, they measured five variables: 1) axis (shoulder alignment), 2) distance, 3) touch, 4) eye contact, and 5) loudness.

Their hypotheses were: 1) that Arab students will interact more closely and more directly than American students, and 2) that when both culture groups are broken down into subgroupings--Arabs by country and Americans by region--the behavior of each of these subgroups will be more like other subgroups within its culture than like any of the subgroups from the other culture. Both hypotheses were confirmed for all five variables.

Forston and Larson also studied seated interaction using North American and Latin American subjects.[12] They hypothesized that: 1) Latin Americans will position their chairs differently than North Americans, 2) Latin Americans will interact at a closer distance, 3) North Americans will prefer a distance of less than 5.5 feet, and 4) Latin Americans will touch one another more often. All of these hypotheses were rejected except the third. There were no significant differences in either position or distance between the subject groups, and no subject of either group touched another subject. Relative to the question of distance, the authors commented that, if anything, the Latin Americans tended to sit farther away. However, they observed, but did not test for, a difference between seated and standing interaction. They commented that in the standing interaction before and after the experiment the interpersonal distance of the Latin American subjects seemed to shrink considerably.

Watson did a more extensive study of proxemic differences, again exploring seated interaction.[13] His subjects were foreign, male, student volunteers at the University of Colorado. Clear differences emerged between the cultures defined as "contact" cultures (Arab, Latin American, Southern European) and those defined as "non-contact" cultures (Asians, Northern Europeans, Indo-Pakistanis). This classification was made largely on the basis of interviews with the subjects about proxemic behavior in their native culture. The distinction itself is based on the following observation by Hall:

> A more basic pattern should be mentioned: Americans of European ancestry fall generally into two groups--contact and non-contact. Non-contact Americans minimize physical contact. . . . Contact Americans, on the other hand, employ touching and holding which is sufficiently different from the former pattern as to cause comment.[14]

That Hall sees America as a primarily non-contact culture is indicated by the statement: "However, whenever the term 'American' is used, it refers only to the dominant non-contact group."[15]

Willis sent forty of his students into various public settings to measure the interpersonal distances of dyads at the moment that verbal interaction was initiated. The author notes that the exploratory nature of the study resulted in the decision to report differences reliable at $p \leq .10$. Since this is an unusually high probability level, it is [illegible]e subject to the type of error

which accepts a chance difference as a true intergroup difference. The results of race as a factor in the analysis are summarized as follows:

> Two groups of nine observations one with Caucasian to Caucasian and the other with Caucasian to Negro were matched for age group and sex. A Mann-Whitney U analysis yielded a U = 20.5 with p = .10. The Caucasian to Caucasian median was 22 in. and the Caucasian to Negro median was 28 in. Two groups of 30 observations one with Caucasian to Caucasian and the other with Negro to Negro were matched for age group and sex. A Mann-Whitney U analysis yielded a U = 113.5, equivalent to a Z = 1.68 with $p < .09$. The Caucasian to Caucasian median was 22.5 in. and the Negro to Negro median was 24 in. A third comparison involving a Caucasian to Caucasian group and a Negro to Caucasian group did not yield a U with $p \leq .10$.[16]

Baxter made observations of proxemic spacing in the Houston Zoo.[17] He measured only intracultural dyads of Anglo, Black, or Mexican-American composition. The main effect for ethnic group was significant ($p < .001$). Mexican-Americans stood closest ($\overline{X}$ = 21.6 inches), Anglos stood at an intermediate distance ($\overline{X}$ = 27.5 inches), and Blacks stood most distant ($\overline{X}$ = 32 inches).

Jones observed intracultural dyads in natural settings in New York City.[18] His samples included Black, Puerto Rican, Italian, and Chinese pairings. He was unable to discover a significant difference among any of these groups.

Finally, Liebman created an experimental situation in which Black and White female subjects had to make

proxemic choices.[19] While ostensibly in a waiting room prior to their participation in an experiment, the subjects had to choose where to sit relative to previously seated confederates who varied according to race, sex, and position. The seating of the White females was uninfluenced by race, although the Black female subjects preferred to sit with a Negro male as opposed to a White male.

The studies surveyed thus far have primarily been those using direct observation of actually interacting dyads. In general, these studies reveal a relatively complex set of variables interacting to affect interpersonal distance. Culture is revealed as a basic factor with such additional variables as interpersonal relationship, task, position, and setting playing a role in the determination of spacing. It should be noted that Forston and Larson gave some indication that the use of personal space in seated interaction may be considerably different from its use in interaction while standing. Also, while the differences detected between the intraracial dyads are not great in terms of absolute magnitude, at least Baxter's figures indicate that they are large enough to be detectable. Even in Willis' data, where the differences are small, their magnitude in the mixed-race dyads was notably greater than in the same-race dyads.

Not all empirical investigations, however, have used direct observation. Several studies have used an

indirect measure. In the indirect approach some form of instrumentation mediates the response of subjects. The basic device used in these studies was designed by James L. Kuethe, though not with proxemics in mind. Kuethe's main interest was in "social schemata," mental patterns which are used in organization of one's perceptions:

> When people organize social stimuli they employ schemata which have been learned during many years of social experience. Many fundamental social schemata have high commonality in the general population. . . .
>
> From early infancy throughout an individual's life he is rewarded for his concern with the activities of others. The individual learns social facts and social patterns as a result of his concern. The social associations or schemata provide him with a frame of reference when he enters situations containing social stimuli. . . . The schema determines the associate structure of both verbal and non-verbal behavior. For example, the schema that places a child with a woman . . . is probably one of the first specific social schemata developed by most children. . . . When a small girl plays mother and cares for her doll she is applying the mother-child schema, applying it long before 'child' will be elicited as a verbal association to MOTHER.[20]

To tap these schema, Kuethe used a large felt cloth background on which felt cut-outs were placed. The cut-outs were both of human figures and geometric shapes.

As Kuethe first applied this instrument he discovered, among other things, that about 70 per cent of his subjects placed the figure of a child closer to the figure of an adult woman, 20 per cent placed it closer to the figure of an adult male, and 10 per cent made equidistant placements.[21] This difference was significant ($p < .0001$).

Kenneth B. Little related Kuethe's technique to proxemic behavior. He showed that proxemic distance was a function of the degree of acquaintance and of the setting in which the interaction takes place. As he reported his adaptation of the method:

> The materials for the projective measurement of personal space consisted of 5 line drawings of males and 5 of females mounted on stiff cardboard rectangles, and three 8 1/2 by 20-inch background scenes. The figures varied slightly in height, but were all to a scale of 1 inch to 1 foot. . . . Background settings were line drawings (on the same scale as the figures) of: the interior of a living room (H), of an office (O), and a street corner (R). . . . Degrees of acquaintanceship were three in number: very good friends (F), casual acquaintances (A), and strangers (S).[22]

The results indicated that the degree of acquaintance imputed to the dyad by the experimenter had a marked effect on the distances between the figures when the subjects placed them. The distance increased as the degree of acquaintance decreased. The settings for the interaction were significant in placement for female subjects, but not for male subjects. An effort to relate this placement of figures to live personal interaction was made. After manipulating the cardboard figures the subjects went into an adjoining room in which they found two actresses. They were instructed to imagine themselves as the director of a play and to place the actresses for a scene involving the same variables as the previous task.

The correlation between the two sets of measures was .77 ($p < .005$).

In a later study Little examined the behaviors of five national-cultural groups: Greeks, Southern Italians, Swedes, Scots and Americans.[23] The first two groups were defined, a priori, as contact cultures and the second two as non-contact cultures. Personal distances were smaller for the contact cultures and these differences were significant. There was considerable similarity between the five groups in their ordering of distances for the schemata used, but notable differences in the distances themselves. American subjects tended to be closer to the contact culture nationalities in their responses than they were to the non-contact culture nationalities.

Engebretson and Fullmer used the Kuethe felt-figure technique to answer a question which is similar to the central question of this study.[24] They investigated the proxemic differences among native Japanese, Hawaiian Japanese, and American Caucasians. Based on the assumption that Japan and America are non-contact cultures and on test results showing that Hawaiian Japanese males are more tradition-oriented and more introverted than Hawaiian Japanese females, the investigators generated several hypotheses:

> (1) Native Japanese will have larger perceived interaction distances when compared with Hawaii [sic] Japanese; (2) Hawaii Japanese will have greater interaction distances than American Caucasians; (3) Native Japanese and American Caucasians will not differ across sex on interaction distances; (4) within the Hawaii Japanese, males will have greater distances than females; (5) conversational content will not be a significant determinant of distance; (6) distance will vary as a function of relationship: student to father, student to professor, and student to friend; (7) Native Japanese will have the following order of increasing distances across relationships, friend, father, and professor, and (8) American Caucasians will demonstrate greater distances with authority figures (father and professor) than with friends.[25]

All of the hypotheses were retained except for the second and the fourth.

Thus, one can see a line of research using indirect measurement techniques which begins by focusing on social schemata and ends by focusing on proxemic distances. While the results of studies using indirect measurement did confirm theoretically predicted differences, especially across culture groups, little attention was paid to correlating such differences with actual proxemic behavior.

Such a study of proxemic differences between culture groups has begun to expand, but little work has been reported in the professional journals on the proxemic differences which might exist between Black and White Americans. There are adequate reasons to expect that such differences might be present. In general, it has been found that three types of differences in communicative

behavior exist: 1) differences in language structure, 2) differences in language use, and 3) differences in kinesic patterns accompanying and in isolation from verbal behavior.

Labov, in a study of Non-standard Negro English and Standard English has extensively documented the two forms of linguistic difference. In reference to the structural differences, he offers the following conclusion:

> In dealing with the structure of N[on-standard] N[egro] E[nglish], we do not find a foreign language with syntax and semantics radically different from S[tandard] E[nglish]: instead, we find a dialect of English.[26]

Those differences of dialect, however, are pronounced enough to cause interference in comprehension between Non-standard Negro English and Standard English speakers. For example in a memory test NNE-bound youngsters were often unable to remember and repeat back a number of typical Standard English sentences. Speakers of SE exhibited the same difficulty when faced with typical NNE sentences.

There also exist differences between Black and White Americans in language functions. There are within Non-standard Negro English specific speech events which do not exist for the speakers of Standard English. Labov discusses three of these at some length: 'rifting' (formal display of occult knowledge), 'toasts' (oral epic poetry),

and 'sounding' (ritual insult). Others have observed these differences as well.

Research has also revealed many differences between Black and White kinesic behaviors. Both Benjamine G. Cooke[27] and Kenneth R. Johnson[28] have described the differences which are found in greeting rituals, stance and walk, eye movements, laughter, and hand movements.

Hall indicates that some kinesic differences are so subtle that a White simply never sees them. A part of his research involved photographs taken of Blacks in conversation. These photographs were at first taken by a White photographer. But when Black subjects were shown these photographs of themselves they were rarely able to give Hall much information about what was happening at the time the picture was taken. However, when one of the Black subjects was given control of the camera, the resultant pictures yielded a great deal of information. As Hall explained of the Black photographer:

> He took frame after frame of what I, as a white, middle class American, considered identical pictures. Interviews with the Negro photographer and the subjects demonstrated that they were acting out and recording a highly structured dialogue in which the cues were more subtle than, and quite different from, those used by the white, middle class population.[29]

As a result of the evidence of differences in linguistic structure, linguistic function, and kinesic patterns, it seems reasonable to expect that there may be

proxemic differences among Black and White Americans. Indeed, this expectation is supported by the field observations of Willis and of Baxter, reported previously.

There is one additional area of proxemics which needs to be considered, and this is the racial interface. Virtually all the work which has been reviewed here has asked questions about intra-group proxemic norms. Almost no questions have been asked about inter-group proxemics--the racial interface. In fact, Smith notes that little work has been done in the whole broader field of interracial communication:

> Although several studies of intercultural communication have already been made, few if any recent research articles have contributed to our understanding of interracial communication intranationally.[30]

Do Blacks and Whites use different rules of interpersonal space when interacting with a member of the other race?

The question is an important one since such differences can create problems in communication among individuals. One fundamental reason for the importance of this question is found in Smith's first principle of communication between the races: "Interracial communication is facilitated when the communicators share a common coding system."[31] While the matter of proxemic distance may appear trivial on the surface, it is not. Talking about intercultural communication in general Porter points out:

> From the viewpoint of face-to-face intercultural communication, the most significant cultural variance in the use of space is that of physical distance between individuals.[32]

Smith, who focuses specifically on communication in a transracial context makes an even more pointed observation:

> Perhaps, in communication across racial lines, an understanding of the nonverbal signs is even more important than an understanding of the verbal code. . . . Nonverbal codification, which is often used unconsciously, is indispensable to meaningful communication in transracial contexts. In order to achieve a measure of understanding, persons who communicate must possess the capacity to respond to nonverbal as well as verbal cues.[33]

As noted earlier, these proxemic differences may be one root of our stereotypes of other nationalities. Porter implies this when he tells us:

> During intercultural communication, attempts to interact at culturally habitual personal distances can cause inadvertent intrusions into another's zone of personal space. Though the result of ignorance, such intrusions can disrupt interaction. Depending on the social relationships, the intruder may be perceived as pushy, overbearing, disrespectful, sexually aggressive, homosexual, or even a boor.[34]

Thus, the British are a 'cold' and 'distant' people partly because of their alleged tendency to stand further away while interacting. Arabs, on the other hand, are 'smelly' or 'loud.' This again is based on their proxemic needs for close personal distance, so close in fact that the olfactory zone is often breached. The closeness itself, no doubt, makes them seem louder, but there is some evidence that this part of the stereotype may be factually

accurate. In Watson and Graves' experiment, mentioned earlier, actual decimeter measurements of volume showed that Arab subjects did speak louder than the American subjects ($p < .005$).

Whether any such elements enter into the relations between Blacks and Whites in America is not yet known because the evidence has not been gathered. As mentioned before, there may be reasons to infer that not only is there a difference between the Black and the White proxemic codes, considered intraracially, but also that in interracial interaction greater personal distances are used. As seen in this review of research, Little has demonstrated that the degree of personal acquaintance between the interactants makes a difference in proxemic distances. Also Engebretson and Fullmer have shown that it makes a difference if one of the interactants is an authority figure. In both these studies, however, focus was on the personal histories of the two individuals doing the interacting. There is an additional question which has not been asked. When the two persons represent different groups, does the social history between those groups affect their use of space while they are interacting? It is at least plausible to hypothesize that this social history does play a role. For example, it is possible that the history of social isolation between Blacks and Whites in America would add to the estrangement between a White and a Black who did

not know one another, and thus be reflected in the use of additional space between them as they interact. Or the history of White dominance in this country might add to the authority of an already dominant White, thus expanding the proxemic distance as he interacts with a non-dominant Black person.

In summary, then, a consideration of Hall's theory of culture as communication has led to a focus on differences in the use of interpersonal space. A review of research on proxemic behaviors indicates that several variables interact to affect the use of space, but that underlying these variations in the personal context is a substantially unified cultural theme. The data which have been gathered so far come both from direct observations in field and laboratory and from indirect observations. They strongly substantiate the fact that differences exist and that they are related to culture groupings. However, one difficulty with the data taken from indirect measures is that little check has been made on their relation to actual proxemic behavior.

It is of both theoretical and practical interest to investigate the question of differences in proxemic codes among the various sub-groups of Americans. Chief among these are American Blacks and American Whites. Sufficient reason to expect such differences comes from the body of research which demonstrates clearly that other

communicative differences, of both a verbal and nonverbal nature, exist. Two previous studies have actually looked at the behaviors of these racial groups. However, one of them used probability levels which were so unusually high as to leave the question in doubt. Only the other study, Baxter's, seems to present strong evidence that Blacks have a proxemic code which differs from Whites in that it places more space between interactants. While both of these studies examine a particular point in interpersonal space, neither of them goes beyond that point to search for the boundaries which define a unit of space. Nor do they attempt to assess the meanings of the units defined. This study will further the investigation of the anchor points in personal space for these two racial groups. In addition it will probe for the boundaries of the spatial units and assess their meaning.

FOOTNOTES

[1]Edward T. Hall, The Hidden Dimension, Anchor Books (Garden City, N. Y.: Doubleday and Company, 1966), p. 2.

[2]Edward T. Hall, The Silent Language (Greenwich, Conn.: Fawcett, 1959), pp. 42-62.

[3]Ibid., p. 46.

[4]Edward T. Hall, "A System for the Notation of Proxemic Behavior," American Anthropologist, LXV (October, 1963), 1003.

[5]Ibid., pp. 1006-1007.

[6]Edward T. Hall, "Proxemics: The Study of Man's Spatial Relations," in Intercultural Communication: A Reader, ed. by Larry A. Samovar and Richard E. Porter (Belmont, Calif.: Wadsworth Publishing Company, 1972), pp. 206-209.

[7]Erving Goffman, Behavior in Public Places (New York: The Free Press, 1963), pp. 83-88.

[8]Hall, "Proxemics: The Study of Man's Spatial Relations," p. 210.

[9]Ibid., p. 208.

[10]Robert Sommer, Personal Space: A Behavioral Basis for Design (Englewood Cliffs, N. J.: Prentice-Hall, 1969), pp. 61-64.

[11]O. Michael Watson and T. D. Graves, "Quantitative Research in Proxemic Behavior," American Anthropologist, LXVIII (August, 1966), 971-985.

[12]R. F. Forston and C. U. Larson, "The Dynamics of Space: An Experimental Study in Proxemic Behavior Among Latin Americans and North Americans," Journal of Communication, XVIII (June, 1968), 109-116.

[13]O. Michael Watson, Proxemic Behavior: A Cross-Cultural Study, Vol. VIII of Approaches to Semiotics, ed. by Thomas A. Sebeok (The Hague: Mouton, 1970).

[14]Hall, "A System for the Notation of Proxemic Behavior," p. 1023.

[15]Ibid., p. 1023.

[16]Frank N. Willis, Jr., "Initial Speaking Distance as a Function of the Speakers' Relationship," Psychonomic Science, V (June 25, 1966), 222.

[17]James C. Baxter, "Interpersonal Spacing in Natural Settings," Sociometry, XXXIII (December, 1970), 444-456.

[18]Stanley E. Jones, "A Comparative Proxemics Analysis of Dyadic Interaction in Selected Subcultures of New York City," Journal of Social Psychology, LXXXIV (June, 1971), 35-44.

[19]Miriam Liebman, "The Effects of Sex and Race Norms on Personal Space," Dissertation Abstracts International, XXXI (December, 1970), 3038-3039.

[20]James L. Kuethe, "Pervasive Influences of Social Schemas," Journal of Abnormal and Social Psychology, LXVIII (March, 1964), 248, 253.

[21]James L. Kuethe, "Social Schemas," Journal of Abnormal and Social Psychology, LXIV (January, 1962), 31-38.

[22]Kenneth B. Little, "Personal Space," Journal of Experimental Social Psychology, I (August, 1965), 239.

[23]Kenneth B. Little, "Cultural Variations in Social Schema," Journal of Personality and Social Psychology, X (September, 1968), 1-7.

[24]Darold Engebretson and Daniel Fullmer, "Cross-Cultural Differences in Territoriality: Interaction Distances of Native Japanese, Hawaii Japanese, and American Caucasians," in Intercultural Communication: A Reader, ed. by Larry A. Samovar and Richard E. Porter (Belmont, Calif.: Wadsworth Publishing Company, 1972), pp. 220-226.

[25]Ibid., p. 221.

[26]William Labov, A Study of the Non-Standard English of Negro and Puerto Rican Speakers in New York City, Vol. II: The Use of Language in the Speech Community, ERIC Report, ED 028 424, 1968, p. 339.

[27]Benjamine G. Cooke, "Nonverbal Communication Among Afro-Americans: An Initial Classification," in Rappin' and Stylin' Out: Communication in Urban Black America, ed. by Thomas Kochman (Urbana: University of Illinois Press, 1972), pp. 32-64.

[28]Kenneth R. Johnson, "Black Kinesics: Some Nonverbal Communication Patterns in Black Culture," in Intercultural Communication: A Reader, ed. by Larry A. Samovar and Richard E. Porter (Belmont, Calif.: Wadsworth Publishing Company, 1972), pp. 181-189.

[29]Edward T. Hall, "Proxemics," Current Anthropology, X (April-June, 1968), 38.

[30]Arthur L. Smith, "Interpersonal Communication within Transracial Contexts," in Intercultural Communication: A Reader, ed. by Larry A. Samovar and Richard E. Porter (Belmont, Calif.: Wadsworth Publishing Company, 1972), p. 288.

[31]Ibid., p. 290.

[32]Richard E. Porter, "An Overview of Intercultural Communication," in Intercultural Communication: A Reader, ed. by Larry A. Samovar and Richard E. Porter (Belmont, Calif.: Wadsworth Publishing Company, 1972), p. 14.

[33]Smith, "Interpersonal Communication within Transracial Contexts," pp. 289, 292.

[34]Porter, "An Overview of Intercultural Communication," p. 14.

CHAPTER III

HYPOTHESES

Based on the literature reviewed in the previous chapter, specific hypotheses can be generated about the differences in proxemic behavior which may be expected among and between Black and White Americans. There is ample evidence of differences in the verbal and nonverbal communication patterns of Blacks and Whites. This general evidence along with the specific data of Willis and of Baxter make it reasonable to hypothesize that there will be a difference in the proxemic patterns appropriate for two interacting Blacks and those appropriate for two interacting Whites.

Several commonly shared, but untested, notions in White American society might lead one to expect that the direction of this difference would be as follows--Blacks interact at a closer physical distance than Whites. First, there is the general stereotype which Whites have of American Black culture. The stereotype assumes Blacks are more tactile than Whites. For this reason American Black culture would seem to fit rather well into Hall's category of a contact culture. Second, the African roots of American Black culture might lead one to assume that it

has been generated out of a contact culture. In this regard Argyle and Dean quote a personal communication which makes the generalization: "Members of some primitive societies in Africa and Indonesia come closer still and maintain bodily contact during conversation."[1] If this is true, then one might expect to find some residual element of those historic roots operative in modern proxemic behavior. Such a residue would be similar to the underlying rhythms and gestures of Africa which are generally conceded to be a part of American Black music and dance. Finally there is the common image of Northern Europeans and Americans (dominant White culture) as a distant people. This might suggest that if American Blacks differed at all from the dominant culture, it would more probably be in the direction of closer contact, rather than in the direction of even more distant contact. In the face of this nonscientific rationale, which many in our society would accept, there is the evidence gathered by Willis and by Baxter. Their initial probings indicate that Black Americans interact at greater personal distances than White Americans.

This study deals with the perception of interpersonal space by these two groups. The stimuli for the study were four sets of photographs showing same-race and mixed-race dyads interacting at varying spatial intervals. In their primary task, the subjects were asked to choose

an anchor point in each set of pictures. That is, they were asked to select the one photograph which was "most appropriate," "most normal," or "most like you would ordinarily see two such people standing." Each subject, then, made four choices, one for each set. One of these choices was correlated with the subjects' actual behaviors vis-a-vis the experimenter. Thus from this task data were gathered about the subjects' perception of appropriate spatial intervals for the situations depicted. In addition, data were gathered which allowed for an assessment of the relationship between the subjects' perceptions and their actual behaviors.

In later tasks the remaining photographs of each set were used to search in both directions for the boundaries of the proxemic units and to explore the meanings of those units.

The following specific hypotheses were tested with the data gathered in the primary task. Since almost no one had probed either the boundaries of the units of space or their meanings, it was impossible to predict what patterns might have emerged from those data. The first hypothesis indicates the fundamental difference expected between Black and White perceptions of appropriate interaction distance. The significance level for this hypothesis and all the others was set at .05.

HYPOTHESIS 1: Black persons will judge the appropriate distance for interaction within Black-only dyads to be greater than will White persons judging the appropriate distance for interaction within White-only dyads.

A subsequent hypothesis concerns the differing abilities of Whites and Blacks to make judgments involving the other race's proxemic code. One might expect that White persons judge the appropriate spacing within all same-race dyads by one proxemic code, whereas Black persons might utilize both their own code, when juding Black-only dyads, and the White code, when judging White-only dyads. The reason for this difference in ability is that the average White has very little exposure to Black proxemic behavior, while the average Black has much more occasion to encounter White proxemic norms. This ability would be analogous to the Black person's knowledge of two verbal codes as described by Wood and Curry.[2] Thus, stated formally the hypothesis is:

HYPOTHESIS 2: Black persons will judge the appropriate distance for interaction within Black-only dyads to be greater than within White-only dyads, while White persons will judge the appropriate distance for interaction to be the same within all same-race dyads.

Earlier it was suggested that certain elements of personal history are known to affect proxemic spacing and that in an analogous manner similar elements of social history may also affect proxemic spacing. For example, how well two persons know one another affects their use of personal space. By analogy the level of acquaintance between the races can be considered a variable which may also affect personal space. Since the members of the two racial groups tend to be habitual strangers to one another, this social element may introduce added distance into interracial dyads in much the same way that added distance is introduced between two strangers of the same race. The status and authority relationships between two persons are additional examples of elements in personal histories which have been demonstrated to affect proxemic spacing. When one member of a dyad has higher status or more authority the distance between the interactants will be expanded. Since the White may be seen as a type of social authority figure by many blacks, this too could be an element causing increased space within mixed-race dyads. This reasoning leads to the following hypothesis:

HYPOTHESIS 3: All persons will judge the appropriate distance for interaction to be greater within mixed-race dyads in which the race of the dominant figure differs from their

race than within dyads in which both figures are of the same race.

This hypothesis applies to only one type of mixed-race dyad because an exception is envisioned. It is entirely possible that the use of greater distance is not judged appropriate by Blacks when a Black is the authority figure. In this instance the White model in the photo may entirely lose any standing as a social authority figure. This should cause the distance between the interactants to shrink. Thus, it can be hypothesized that:

HYPOTHESIS 4: Black persons will judge the appropriate distance for interaction to be less within the mixed-race dyads in which Blacks are dominant than within the mixed-race dyads in which Whites are dominant.

For Whites, however, there is no comparable exception. Since a Black interactant has no social status to lose in the eyes of a White, there is no reason for diminished space when either of the mixed-race dyads are judged by White observers. Thus, the following hypothesis, which depends in part on the behavior of Blacks predicted in hypothesis four:

HYPOTHESIS 5: Black persons will judge the appropriate distance for interaction to be less within mixed-race dyads in which Blacks are

dominant than will White persons judging those same dyads.

Finally, there is a need to assess the relationship between people's actual proxemic behavior and their corresponding perceptions of appropriate interpersonal spacing for the dyads seen in the photographs. It was observed in the review of the literature that not enough had been done in studies involving indirect measurement of proxemic behavior to establish this relationship. Thus:

HYPOTHESIS 6: Given comparability in social context and conversation content, there will be a direct correlation between the distances used by observers in their actual proxemic behavior and the distances depicted in photographs which they choose as representing appropriate interpersonal distance.

Without some indication of a significant relationship between perceptions and the behaviors which those perceptions represent, it would be impossible to infer anything about actual interaction. Thus, it is necessary to hypothesize that such a relationship exists, and to test that hypothesis.

The method which was used to test these six hypotheses and to explore the limits of the spatial units and their meaning is the subject of the next chapter.

FOOTNOTES

[1]Michael Argyle and J. Dean, "Eye-Contact, Distance, and Affiliation," Sociometry, XXVIII (September, 1965), 294.

[2]Barbara Sundene Wood and Julia Curry, "Everyday Talk and School Talk of the City Black Child," Speech Teacher, XVIII (November, 1969), 282-296.

CHAPTER IV

METHOD

The method presented in this chapter probed the subjects' use of personal space through an indirect measurement. That is, the stimuli to which the subjects responded were not other persons, but the representations of other persons; in this case, representations made through photographs. There were at least three reasons for using an indirect approach. First, if actual dyadic interaction were used, two subjects would be needed to provide each scoring instance. Second, and more important, indirect measurement allows the investigator to conveniently assess the subjects' perceptions of the proxemic norms of groups other than the one to which they belong. Finally, there is a need to measure the same variable in more than one way. As Webb, Campbell, Schwartz, and Sechrest have pointed out:

> The mistaken belief in the operational definition of theoretical terms has permitted social scientists a complacent and self-defeating dependence upon single classes of measurement--usually the interview or questionnaire. Yet the operational implication of the inevitable theoretical complexity of every measure is exactly opposite: it calls for a multiple operationalism, that is, for multiple measures which are hypothesized to share in the theoretically relevant

> components but have different patterns of irrelevant components. . . .
>
> Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced.[1]

As a result of the specific method of this study, along with other indirect and direct measures, researchers may be able to gather data on proxemic distance in a greater variety of ways.

Stimulus Photographs

The subjects were exposed to several sets of 5 1/2 x 8 1/2 inch black and white photographs showing male dyads interacting (see Appendix C). The photographs were taken at a 90 degree angle to minimize distortion. They varied systematically along two dimensions: distance between the interactors (chest to chest) and race of the interactors. In determining the various distances between the interactors, the framework generated by Hall was used:

> In effect, one identifies, one by one, the isolates making up the sets that constitute the intimate, personal, social and public zones.
>
> The following descriptions of the four distance zones have been compiled from observations and interviews with non-contact, middle-class, healthy adults, mainly natives of the northeastern seaboard of the United States.[2]

Within each of these four distance zones, Hall distinguishes a "close phase" and a "far phase." Thus, he gives the distances shown in Table 1. The sort of interaction depicted in the stimulus photographs is of the sort which

TABLE 1

HALL'S EIGHT RANGES OF PROXEMIC DISTANCE

Zone	Phase	Distance Range
Intimate	Close	Full Physical Contact
	Far	6 inches - 18 inches
Personal	Close	18 inches - 30 inches
	Far	30 inches - 48 inches
Social	Close	4 feet - 7 feet
	Far	7 feet - 12 feet
Public	Close	12 feet - 25 feet
	Far	25 feet and beyond

Hall defines as taking place within the personal zone. However, in order to give the subjects additional latitude for individual choice several intervals from the two adjoining phases were included. Eight intervals were established beginning with the mid-point for the far phase of the intimate zone and running through the outer limit for the close phase of the social zone. These eight spacings, found in Table 2, are the ones used for the stimulus photographs. They represent the beginnings, mid-points, and ends of the various phases involved.

The other dimension varied was the racial composition of the dyads. There were two types of dyads: same-race and mixed-race. Obviously, the same-race dyads were of two types: White-only and Black-only. If the interactants had been portrayed as equals, it would have been sufficient to have a single mixed-race dyad. However, since one of the interactants was portrayed as dominant there were two mixed-race dyads. In one the Black interactant was dominant. In the other the White interactant was dominant. Thus, there were four sets of eight photographs each. These sets of photographs were conceived of as four separate conditions, which are referred to as: WHITE-white (Ww), BLACK-black (Bb), BLACK-white (Bw), and WHITE-black (Wb). The capitalization indicates which member of the dyad is the dominant member.

TABLE 2

TEN PROXEMIC DISTANCES USED IN EXPERIMENTAL PHOTOS

Distance	Relation to Hall's Ranges
12 inches	Mid-point of the Intimate-Far range
18 inches	End of the Intimate-Far range, beginning of the Personal-Close range
24 inches	Mid-point of the Personal-Close range
30 inches	End of the Personal-Close range, beginning of the Personal-Far range
39 inches	Mid-point of the Personal-Far range
48 inches	End of the Personal-Far range, beginning of the Social-Close range
66 inches	Mid-point of the Social-Close range
84 inches	End of the Social-Close range, beginning of the Social-Far range

In an effort to minimize the variables affecting the subjects' judgments, the photographs depicted a relatively standard setting familiar to almost every American--the classroom. It was assumed that less individual interpretation would occur on judgments concerning a student-teacher relationship than almost any other relationship which could be depicted in a simple manner. The background for the photographs was standardized to include common classroom items: a blackboard showing a diagram, a desk, chalk, an eraser, a desk, books, etc. One of the interactants was depicted in the role of a teacher, the other in the role of a student. The roles were cued by visible age and clothing differences. The details of the context were made explicit in instructions (see below) given to the subjects before they began examining the photographs.

Subjects

Except for five White and five Black underclassmen from the University of Iowa, subjects were clients and staff members at the Kirkwood Community College Career Center, Cedar Rapids, Iowa, and persons from the Jane Boyd Community House. The Kirkwood center is located near the ghetto on the southeast side of Cedar Rapids and serves its clients primarily through preparation for high school equivalency testing and through career counseling. The

Jane Boyd Community House is an activities center located in the Black ghetto in the same quadrant of Cedar Rapids.

An effort was made as subjects were being gathered, to keep the Black and the White samples roughly matched in terms of age, sex, formal education, and occupation. The end result was that each of the two racial samples contained twenty-four persons, nineteen males and five females. The age range of both samples was 18 to 33 years, with a mean age of 22.1 years for the Whites and 23.3 years for the Blacks. There were 18 Whites and 17 Blacks between the ages of 18 and 24, four Whites and six Blacks between 25 and 30, and two Whites and one Black over 30 years of age. The typical White volunteer had received 12.67 years of formal education. Eight Whites had started but not finished high school, two had finished high school, nine had started but not finished college, and five had finished college. The average Black subject had 11.25 years of formal education. Four Blacks had finished only grade school, three had started but not finished high school, five had finished high school, ten had started but not finished college, and two had finished college. When asked about their occupation, six members of each group indicated that they were students. Two members of each group listed aid to dependent children as their source of income. Three Whites and two Blacks were unemployed. Seven Whites and six Blacks had jobs which involved them

with people, such as teacher counselor, etc. Two Whites and three Blacks were involved in other skilled positions. Four Whites and five Blacks were doing unskilled work.

As each subject began the study he was told only that the investigator was a doctoral candidate at the University of Iowa, that he was in Cedar Rapids (or Iowa City) to do a study on how people communicate, and that the study involved viewing some photographs and making judgments about them.

Procedure

Each subject performed seven tasks: 1) choosing an anchor point in each set of photographs, 2) determining the inner boundary for each set of photographs, 3) discussing the meaning ascribed to crossing those inner boundaries, 4) determining the outer boundary for each set of photographs, 5) discussing the meaning ascribed to crossing those outer boundaries, 6) assessing some personality dimensions of the models in the photographs using Likert scales, and 7) approaching the investigator as if he were one of the students in the photographs.

As the subjects began task one, they were given the following instructions orally:

> You are about to see four sets of photographs. In each photograph two people are talking. One of the two persons is a teacher, the other is a student who has stopped briefly after class to ask a further question about the material which the teacher was discussing during class. You

> will notice that the pictures are all very much the same except for one thing--the two persons are not always the same distance apart. Sometimes they will be pictured farther apart than two such people would normally stand, other times they may be closer than is average. Your task will be to go through each set of pictures as it is handed to you and choose that one in which the distance between the two people looks the most normal. That is, you are to choose the one picture in which the distance between the two people is most like you would ordinarily see between two such people.

The subject was then handed one of the four sets of photographs. Each set of eight photographs was randomly reordered with each new subject. The order in which the sets themselves were presented was sequenced so that one-quarter of the subjects saw Ww first followed by Bb, Wb, and Bw; one-quarter saw Bb first, followed by Wb, Bw, and Ww; one-quarter saw Wb first, followed by Bw, Ww, and Bb; and one-quarter saw Bw first, followed by Ww, Bb, and Wb.

After they had chosen the most appropriate photograph in each set, the subjects began the tasks which explored the boundaries and the meanings of crossing those boundaries. The aim of tasks two through five was to provide an emic analysis of spatial use. "Emic" is used here in Kenneth Pike's sense of the term.[3] According to Pike it is the task of emic analysis to describe a behavioral system in its own terms. This is the internal or indigenous approach. Etic analysis, on the other hand, is an external or exogenous approach. It examines a behavioral system in the light of external criteria or categories

brought to bear by an outside observer. Watson makes the point that most of what is studied under the title of proxemics is really proxetics:

> Proxemic research has been cast almost entirely in an etic framework. . . . This fact accounts for a serious gap in our understanding of proxemic behavior. . . . I would argue that a grasp of proxemic behavior as a system of communication is dependent upon a better understanding of the emic aspects. . . . I feel that the most important, and largely neglected, area of proxemic research lies in the need to isolate proxemes--contrastive units of proxemic behavior--within culturally specific systems.[4] (First emphasis added.)

Since this study is concerned primarily with proxemic behavior "as a system of communication," two dimensions of that behavior were probed for hueristic purposes. They were, first, the boundaries between the units of space and, second, the meaning of the spatial units.

The first goal of the emic analysis tasks was to probe for those personal space boundaries which had some meaning for the subjects within their own cultural system. This was what Hall had done with the interviews from which he derived the four zones of space found in Table 1. However, this study did its searching within the context provided by the stimulus photographs. The eight photographs in each set were coded according to the amount of space between the models as measured chest-to-chest. When, for example, a particular subject had chosen photograph Ww 30 as his anchor point this meant that in his opinion the most appropriate spacing which he could find represented

in the set of photographs for two White persons was 30 inches. This photograph then became his anchor point for that set. It was placed on the table in front of him, and all comparisons were made with that photo. For example, in the task which probed the inner boundary he was shown the anchor photo followed by the photograph with the next smallest interval, Ww 24. He was asked of photo Ww 24, "Would it make any difference if the persons in the photograph stood this close together?" If the subject answered "No," he was shown the next smallest interval, Ww 18, and asked the same question. This process continued until the subject responded "Yes." When he gave an affirmative response it was assumed that the photograph in question represented a new unit of space and that a boundary had been crossed. This boundary was scored by assigning the distance between the models in the second photograph.

This same procedure was repeated with the same set of photographs moving in the outward direction in order to search for the outer boundary of this anchor unit of space. Half of the subjects explored the inner boundary in each condition before the outer boundary. The other half reversed the order. Thus, data were gathered eight times (two directions in four conditions). There were a few instances in which a subject could not find a picture which placed the models close enough together to make a difference. In those instances the subject was assigned

a score of six inches. The rationale for this was that 12 inches was not close enough, but all of these subjects agreed that a small step forward by either model would be enough to make a difference in the interaction.

It was assumed that this method might be an effective way of exploring these boundaries since some of the photographs should have represented a violation of the subjects' norms. As Watson has observed, "I feel a good way to discover the rules of any system of behavior is to have them broken."[5]

Once the subject was confronted with a photograph which in his estimation made a difference, the semantic question was pursued. Again Watson points out:

> We are immediately confronted with a problem: what is a proxemic sign and what meanings, in what contexts, are attached to it? An attempt to answer these questions demonstrates a serious gap in our knowledge of the communicative dimension of proxemic behavior.[6]

In an effort to arrive at the meaning of the various units of space the subject was asked to make a series of comparisons between the anchor photograph and the one chosen as representing a difference. The method of making comparisons was chosen to include both completely free responses and more structured comparisons (see Appendix A).

These comparisons represented the semantic space for nonverbal behavior as presented by Mehrabian:

> Feelings that are communicated nonverbally (or even verbally) can be characterized in terms of three independent dimensions: like-dislike, potency or status, and responsiveness. The first of these dimensions requires little definition; the second dimension, potency, refers to dominant or controlling versus submissive and dependent attitudes. . . .
>
> Responsiveness refers to the extent of awareness of, and reaction to, another.[7]

The like-dislike dimension was represented by an open-ended question which asked about the emotion or feeling experienced by the two persons in the picture and by a more structured comparison which asked in which of the two photos they knew one another better. The potency or status dimension was represented by questions about their willingness to cooperate and the strength of the emotion which they were experiencing. The responsiveness dimension was represented by a question probing their mutual understanding.

The sixth task was to assess the personalities projected by each of the models portrayed in the photographs. This was done by showing the subjects individual photos of these four persons. Half of the subjects were asked to do this task before the roles of teacher and student had been made salient by viewing the thirty-two pictures. The other half rated the models only after having done tasks one through five. In both cases the subjects rated each of the models on the following

five-interval scales: good-bad, strong-weak, active-passive, loving-hostile, warm-cold, and powerful-powerless.

Instructions for the use of these semantic differential type scales were very simple. The subject was told that the more the person in the picture seemed to be like one adjective on either end of the scale, the closer he should place his check to that adjective. The center space was to be used only in two cases: 1) if the model seemed neutral, and 2) if the subject could not make up his mind.

The final task performed by the subject was to approach the investigator playing the role of the student in the picture. For this approach the investigator stood at one end of a table upon which a tape measure had been secured. The distance from the investigator at which the subject stopped was recorded (overt approach distance, OAD). This was the second recording of the subject's actual proxemic behavior. When he had first entered the room to begin the session he had approached the investigator in the same way. At that time a covert measure of the distance between the two persons had been recorded (covert approach distance, CAD).

Setting

The setting for the experiment was extremely simple. It required only a room in which the subject was able to view the pictures relatively free from distraction.

The room contained only a long table and two chairs. Subjects were, of course, run individually.

Data Analysis Procedures

As mentioned earlier the scoring of the photos chosen was done by assigning the actual distance between the models. This was the best manner of scoring their responses for two reasons. First, it allowed all the advantages to be derived from using ratio scales. Second, since the eight intervals were not equal and they were to be correlated with actual measurements, the use of a coding system such as 1 through 8 would have necessitated some justification that the unequal physical intervals were psychologically equivalent. This could possibly have been done, but it was easily avoided by the scoring system chosen.

The study used a 2 x 2 x 2 mixed design as shown in Figure 1. An overall analysis of variance was done

FIGURE 1

ANALYTIC DESIGN

BLACK SUBJECTS	Race of Teacher in Photo W	B
Race of Student in Photo W	A	B
Race of Student in Photo B	C	D

WHITE SUBJECTS	Race of Teacher in Photo W	B
Race of Student in Photo W	E	F
Race of Student in Photo B	G	H

using a Type VI analysis.[8] Several t-tests with restricted alpha levels were used to follow-up in testing the specific comparisons which the hypotheses demand. Those specific comparisons were as follows (letters indicate the cells in Figure 1):

$H_1 : D > E$

$H_2 : D - A > H - E$

$H_3 : C + F > [A + D + E + H] / 2$

$H_4 : B < C$

$H_5 : B < F$

In order to check on the relationship between the subjects' interaction distances and their choices of photographs portraying interaction distances two correlations were made. The distances at which the subjects stopped when initially approaching the investigator and when asked to approach him were correlated with the distance judged most appropriate in the condition in which a student of the subject's race was paired with a teacher of the investigator's race (i.e. White):

$H_6 : r = p \leq .05.$

The open-ended responses and the structured comparisons were searched for patterns of meaning, but no statistical tests were possible. The person perception scores were analyzed using a 2 x 4 x 6 Type VI design.

Pilot Study

In order to ascertain the effectiveness of this method, a pilot study was done using thirteen subjects. The only change in method resulting from that study was a slight rewording of the structured comparisons to eliminate ambiguity. The results of the pilot study were encouraging. The means are given in Table 3:

TABLE 3

SPATIAL SEPARATION BETWEEN MODELS, PILOT STUDY MEAN DISTANCES IN INCHES

Condition	Subject Race		Differences
	White	Black	
Ww	24.75	19.20	5.55
Bb	21.75	20.40	1.35
Wb	20.50	24.00	-3.50
Bw	21.25	22.20	-0.95

Making the specific comparisons indicated in the previous section, the direction of these results confirmed hypotheses three and four. The correlations between actual behaviors and stimulus choices were in an acceptable range. The CAD measurements correlated with the stimulus choices .37, while the OAD measurements correlated with those same choices .39. Neither of these correlations was significant for such a limited number of subjects. However, it was

decided that they were sufficiently large to justify the main study. The results of that main study are reported in the next chapter.

FOOTNOTES

[1]Eugene J. Webb, et al., Unobtrusive Measures: Nonreactive Research in the Social Sciences (Chicago: Rand McNally, 1966), p. 4.

[2]Edward T. Hall, The Hidden Dimension, Anchor Books (Garden City, N. Y.: Doubleday and Company, 1969), p. 116.

[3]Kenneth L. Pike, Language in Relation to a Unified Theory of the Structure of Human Behavior, Part I (Glendale, Calif.: Summer Institute of Linguistics, 1954), pp. 8-28.

[4]O. Michael Watson, "Conflicts and Directions in Proxemic Research," Journal of Communication, XXII (December, 1972), 454-455.

[5]Ibid., p. 452.

[6]Ibid., pp. 455-456.

[7]Albert Mehrabian, Nonverbal Communication (Chicago: Aldine-Atherton, 1972), p. 179.

[8]E. F. Lindquist, Design and Analysis of Experiments in Psychology and Education (Boston: Houghton Mifflin Company, 1953), pp. 292-297.

CHAPTER V

RESULTS

The results of the data analysis procedures described at the end of the last chapter will be given first in terms of the separate tasks and then in terms of the results involving more than one task.

Results of Separate Tasks

Task 1: Choice of an Anchor Point

Each subject was asked to examine the four sets of photographs and to choose one photo in each set in which the distance between the models seemed most appropriate for the classroom context described by the instructions. The resulting means for the two racial groups are displayed in Table 4 (individual scores for this and other tasks are found in Appendix B).

It is apparent from these results that the perceptions of the subjects in this study run counter to the findings of Willis and of Baxter, in that the means of the Black subjects are consistently smaller, not larger, than those of the White subjects. This difference, which averages slightly over four inches, is significant ($F = 4.14$; $df = 1/44$; $p < .05$).

TABLE 4

ANCHOR POINT CHOICE FOR ALL SUBJECTS
MEAN DISTANCES IN INCHES

Condition	Subject Race		Difference
	White	Black	
Ww	27.0	23.1	3.9
Bb	27.9	23.9	4.0
Wb	26.6	23.5	3.1
Bw	27.0	21.7	5.3
Mean Distance	27.1	23.1	4.0

It is also clear from these results that most of the five hypotheses pertaining to the racial groups' choices of an anchor photograph were not substantiated. First, based on the findings of Willis and of Baxter, it had been predicted that Black and White subjects would differ in the spatial judgments of their respective racial groups. Blacks were predicted to judge more space as appropriate between the interactants in the Bb condition than Whites judging the Ww condition. In fact, the reverse was true. As is evident from the means in Table 4, the Black subjects judged 23.9 inches as appropriate for the Bb condition, while the Whites judged 27.0 inches as appropriate for the Ww condition. Second, it had been predicted that the Black and White subjects would differ in their spatial judgments of the other's group. Black subjects were expected to be aware of two proxemic codes, while White subjects would be aware of only one. Again, the means in Table 4 indicate that both groups of subjects judged the other racial group by much the same standard as they judged their own. There is less than an inch of difference in the means for the Ww and Bb conditions within each group and almost four inches of difference between the two groups. Obviously, the Black subjects were not using the White norms to judge appropriate spacings for the Ww condition. Third, it had been predicted that all subjects would judge it appropriate for the interactants in mixed-race dyads to stand at a greater

distance from one another than the interactants in same-race dyads. This was not the case, however. Both groups perceived slightly less space, on the average, to be appropriate within the mixed-race dyads. These differences were not significant.

The final two hypotheses concern the expectation that in a mixed-race dyad in which a Black was dominant, Black subjects would place the interactants closer than the White subjects would. Indeed, this was the case. On the average Black subjects perceived 1.8 inches less to be appropriate within the mixed-race dyad in which the Black was dominant, as compared with their judgment of the mixed-race dyad in which the White was dominant. This difference is not significant. However, when the judgments of the Bw dyad by the Black and White subjects are compared the difference is 5.3 inches. The White subjects judged significantly more space as appropriate within that dyad than the Black subjects. Of all the differences relating to the hypotheses, this last is the only one which is both significant and in the predicted direction ($t = 2.27$; $df = 46$; $p < .05$).

When the subjects' responses were examined further, it seemed possible that there might be an interaction of race with sex (see Table 5). Therefore, it was decided to do a four-factor analysis of variance, adding sex-of-subject to the three variables mentioned in chapter four:

TABLE 5

ANCHOR POINT CHOICE FOR ALL SUBJECTS BY RACE AND SEX
MEAN DISTANCES IN INCHES

Condition	Subject Race and Sex		Difference
	White Males	Black Males	
Ww	25.5	22.6	2.9
Bb	27.5	24.8	2.7
Wb	26.2	24.3	1.9
Bw	26.4	22.1	4.3
	White Females	Black Females	
Ww	32.4	25.2	7.2
Bb	29.4	20.4	9.0
Wb	28.2	20.4	7.8
Bw	29.4	20.4	9.0
	White Males	Black Males	
Mean Distances	26.4	23.9	2.5
	White Females	Black Females	
	29.9	21.6	9.3

race-of-subject, race-of-teacher-in-photo, and race-of-student-in-photo. The summary of that analysis is found in Table 6. It should be pointed out that the number of female subjects in the experiment was 10, while the number of male subjects was 38. The original plan for the study had been to have 20 male subjects of each racial group if possible. Early in the week during which the data were being gathered, five females of each race were included. However, when a sufficient number of male subjects became available, no more females were asked to participate. In retrospect, it would have been better to have a large bloc of female subjects for comparison with the males. A separate three-factor analysis of the males alone did not yield a significant F-ratio for the effect of the race of the subject ($F = 1.59$; $df = 1/36$).

The disproportion between the number of males and the number of females may have reduced the power of the test to find an interaction between race and sex. In addition, the variances of the two groups were different. The females gave more homogeneous answers than the males. With these limitations in mind, however, the interaction of sex by race (CD effect in Table 6) was not significant ($F = 1.16$; $df = 1/44$).

TABLE 6

SUMMARY TABLE OF FOUR-FACTOR F-TEST, ALL SUBJECTS' ANCHOR PHOTOGRAPH CHOICE

Source	df	SS	MS	F-ratio
Subjects	47	65.592	1.396	
C	1	5.501	5.501	4.14*
D	1	0.140	0.140	0.10
CD	1	1.538	1.538	1.16
Error (Between)	44	58.413	1.328	
Within	144	37.187	0.258	
A	1	0.001	0.001	0.01
AC	1	0.105	0.105	0.53
AD	1	0.257	0.257	1.30
ACD	1	0.003	0.003	0.02
B	1	0.187	0.187	0.76
BC	1	0.833	0.833	0.34
BD	1	0.789	0.789	3.22
BCD	1	0.037	0.037	0.15
AB	1	0.187	0.187	0.52
ABC	1	0.005	0.005	0.01
ABD	1	0.197	0.197	0.55
ABCD	1	0.000	0.000	0.00
Error (Within)	132	35.333	0.268	
Total	191	102.780	0.538	

Dimensions:
A = Race of teacher in photograph
B = Race of student in photograph
C = Race of subject
D = Sex of subject

*indicates significant F-ratio, $p < .05$

Task 2: Exploration of the Inner Boundary

After the subjects had chosen an anchor point in each of the four sets of photographs, the inner boundary was explored. The subject was shown pictures of the two models standing closer and closer until he indicated that they were standing close enough to make a difference in their interaction. The inner boundary was scored by noting the actual distance between the models in the photograph. The results are given in Table 7.

TABLE 7

INNER BOUNDARY CHOICE FOR ALL SUBJECTS
MEAN DISTANCES IN INCHES

Condition	Subject Race		Difference
	White	Black	
Ww	16.2	13.6	2.6
Bb	14.7	12.5	2.2
Wb	15.1	12.5	2.6
Bw	15.5	12.8	2.7
Mean Distance	15.4	12.8	2.6

The difference between the racial groups is not significant ($F = 3.72$; $df = 1/44$). The analysis of

variance was, again, a four-factor one. The results are summarized in Table 8.

Task 3: Meaning of the Inner Boundary

The data from tasks two and four indicate that there are inner and outer boundaries which, when passed, begin to change the meaning of the interaction. In the rest of the discussion there will be occasion to talk about three basic units of space, or proxemes. The basic unit of space is called a "proxeme" by analogy with linguistic analysis which refers to the basic unit of sound as a "phoneme." These three proxemes may be visualized as follows:

FIGURE 2

DIAGRAM OF THE THREE BASIC PROXEMES

In the diagram, "T" represents the target individual whose interpersonal space provides the frame of reference. "A" is the anchor proxeme in which the investigation was begun. It is that unit of space which would be appropriate for interactions such as a teacher and student discussing class matters. This proxeme corresponds to Hall's personal zone. Concerning that zone he observes: "Subjects of

TABLE 8

SUMMARY TABLE OF FOUR-FACTOR F-TEST, ALL SUBJECTS' INNER PHOTOGRAPH CHOICE

Source	df	SS	MS	F-ratio
Subjects	47	28.644	0.609	
C	1	2.184	2.184	3.72
D	1	0.080	0.080	0.14
CD	1	0.566	0.566	0.96
Error (Between)	44	25.813	0.587	
Within	144	13.164	0.091	
A	1	0.076	0.076	1.36
AC	1	0.003	0.003	0.05
AD	1	0.092	0.092	1.64
ACD	1	0.013	0.013	0.24
B	1	0.211	0.211	2.40
BC	1	0.006	0.006	0.07
BD	1	0.043	0.043	0.50
BCD	1	0.017	0.017	0.19
AB	1	0.028	0.028	0.20
ABC	1	0.003	0.003	0.03
ABD	1	0.033	0.033	0.24
ABCD	1	0.350	0.350	2.58
Error (within)	132	12.288	0.093	
Total	191	41.808	0.219	

Dimensions:
A = Race of teacher in photograph
B = Race of student in photograph
C = Race of subject
D = Sex of subject

personal interest and involvement can be discussed at this distance."[1] The diagram shows "X," the other person in "T's" space, as standing within this proxeme. If "X" were to move forward, he would enter what is referred to as the inner proxeme, "I," or what Hall would call the intimate zone. As "X" moves away from "T" he crosses the boundary into the outer proxeme, "O." Hall calls this unit of space the social zone. In this outer unit the distances are great enough to allow some piece of furniture, often a desk or table, to intervene between the interactants.

From the responses of the subjects it would seem that the meaning of the inner proxeme is ambiguous, especially when compared with the outer proxeme. As one subject described this unit of space: "That close it looks like they are either going to fight or make love." As described in Chapter 4, the subjects were first asked to describe the emotion depicted in the photo representing the inner proxeme and to indicate the intensity of that emotion. Then, they were asked to compare the anchor photo with the inner photo and indicate in which of the two pictures the models understood one another better, were more willing to cooperate and knew one another better. Frequency distributions for these data are found in Appendix B. The responses to the question on emotion were categorized in one of three ways: 1) positive emotions such as "warmth," "friendliness," "intimacy,"

"an attempt to help," "sincerity," etc., 2) negative emotions such as "anger," "disagreement," "hostility," etc., and 3) unable to decide. Data from the other items did not need to be categorized since the nature of the questions allowed only one of two meaningful responses along with the possibility of being unable to decide.

These data were analyzed using a chi-square statistic. The subjects who were unable to decide were omitted from the analyses and the remaining frequencies for each item in each condition were combined and tested against the null hypothesis that half of the subjects should have chosen each of the two alternatives. The results are found in Table 9.

TABLE 9

CHI-SQUARE VALUES FOR MEANING OF INNER PROXEME PHOTOGRAPH

	Condition			
	Ww	Bb	Wb	Bw
Emotion	0.06	4.14*	3.72	0.01
Intensity	4.34*	2.08	1.19	2.21
Understanding	0.01	1.01	1.06	0.20
Cooperation	0.01	0.11	0.60	0.00
Knowledge	1.35	4.09*	3.04	3.57

*indicates significance ($p < .05$; $df = 1$)

Only three out of these 20 tests showed significant differences, indicating that there is hardly more than a chance difference that a person would perceive the inner proxeme as meaning one thing rather than another. An inspection of the frequencies in Appendix B will indicate that there was a tendency among the responses to favor the positive emotional interpretation, to see the emotion as intense, and to interpret the models as having a better knowledge of one another, but each of these tendencies only achieved significance in one of the four conditions. The essentially ambiguous nature of this proxeme will become clear when the comparable data for the outer proxeme are discussed.

Task 4: Exploration of the Outer Boundary

After the subject had chosen an anchor point in each of the four sets of photographs, the outer boundary was also explored. The subject was shown pictures of the two models standing farther and farther away until he indicated that they were standing far enough apart to make a difference in their interaction. As in the determination of the inner boundary, this boundary was also scored by using the actual distance between the models when the photograph was taken. The results were as follows:

TABLE 10

OUTER BOUNDARY CHOICE FOR ALL SUBJECTS
MEAN DISTANCES IN INCHES

Condition	Subject Race		Difference
	White	Black	
Ww	46.3	36.9	9.4
Bb	44.0	35.9	8.1
Wb	44.2	38.2	6.0
Bw	44.5	34.4	10.1
Mean Distance	44.7	36.4	8.3

Again, as in the previous analyses, a fourth factor--subject sex--was added to the planned three-factor analysis. The results are summarized in Table 11. As that table shows, the difference between the two racial groups is significant ($F = 6.47$; $df = 1/44$; $p < .05$). None of the other main effects or interactions is significant.

Task 5: Meaning of the Outer Boundary

After the subject had located the outer proxeme, the meaning of crossing its boundary was pursued. From the responses of the subjects, it seems that the outer proxeme has a generally negative connotation. This negativeness can take many forms according to the respondents:

TABLE 11

SUMMARY TABLE OF FOUR-FACTOR F-TEST, ALL SUBJECTS' OUTER PHOTOGRAPH CHOICE

Source	df	SS	MS	F-ratio
Subjects	47	191.805	4.081	
C	1	23.422	23.422	6.47*
D	1	8.684	8.684	2.40
CD	1	0.451	0.451	0.12
Error (Between)	44	159.247	3.619	
Within	144	86.485	0.600	
A	1	0.960	0.960	1.58
AC	1	0.170	0.170	0.28
AD	1	0.513	0.513	2.49
ACD	1	0.000	0.000	0.00
B	1	0.001	0.001	0.00
BC	1	0.579	0.579	1.62
BD	1	0.043	0.043	0.12
BCD	1	1.312	1.312	3.67
AB	1	0.058	0.058	0.06
ABC	1	0.041	0.041	0.05
ABD	1	0.028	0.028	0.03
ABCD	1	0.022	0.022	0.02
Error (Within)	132	81.758	0.619	
Total	191	278.290	1.457	

Dimensions:
A = Race of teacher in photograph
B = Race of student in photograph
C = Race of subject
D = Sex of subject

*indicates significant F-ratio, $p < .05$

"a certain amount of aloofness," "dislike," "afraid to talk," "mad at one another," "it seems like they aren't saying much," "I can almost see a barrier between them," "the teacher is real paternal," and "the student is protesting something."

Again the subject was asked about the emotion and intensity of emotion which he perceived in the photograph depicting the outer proxeme. Then the three comparisons were made. The results of a chi-square analyses of these data are found in Table 12. The procedure for these analyses was the same as for the inner proxeme photo. The responses indicating the emotion which the subjects saw in the outer proxeme photo were categorized into negative and positive. The other items were already in computable categories. The subjects who were unable to decide were omitted from the analyses and the remaining frequencies for each item in each condition were combined and tested against the null hypothesis that half of the subjects should have chosen each of the two alternatives. It is quite clear from these figures that a pattern of meaning emerges for the outer proxeme. An inspection of the frequencies in Appendix B will indicate that the emotion seen in the photo is negative, but that the intensity of that emotion is ambiguous. In every condition for all three of the comparisons (mutual understanding, cooperation, and personal knowledge) the relationships between the

TABLE 12

CHI-SQUARE VALUES FOR MEANING OF
OUTER PROXEME PHOTOGRAPH

	Condition			
	Ww	Bb	Wb	Bw
Emotion	7.06*	3.65	9.92*	14.32*
Intensity	0.81	0.02	2.90	0.06
Understanding	14.26*	19.40*	11.87*	9.56*
Cooperation	8.55*	13.98*	10.08*	9.63*
Knowledge	9.05*	18.10*	15.18*	11.97*

*indicates $p < .05$; $df = 1$

interactants were seen as significantly worse in the outer proxeme than in the anchor proxeme.

Task 6: Person Perception of the Models

This task was included because it was considered possible that the personalities projected by the persons in the photographs might make a difference in the amount of interpersonal space which subjects considered appropriate for them. Each subject was shown an individual photograph of each of the four models which had been enlarged from one of the dyad photos. The basic sequencing of the four photos was the same: Black teacher, White teacher, White student, Black student. However, subjects entered that sequence at different points, so that 12 subjects saw the Black teacher first, 12 saw the White teacher first, etc. The subject was asked to rate the model on six five-interval scales: good-bad, strong-weak, active-passive, loving-hostile, warm-cold, and powerful-powerless. The results of the analysis of these data are found in Table 13. As that table shows, three significant F-ratios were obtained. The most important is an interaction of scales with the photographs of the models ($F = 4.56$; $df = 15/1058$; $p < .05$). This means that certain models were rated differently on some of the scales. A closer inspection of the mean scores for the four models, found in Table 14, shows that the Black teacher and the White student were perceived

TABLE 13

SUMMARY TABLE FOR F-TEST ON PERSON PERCEPTION TASK DATA

Source	df	SS	MS	F-ratio
Subjects	47	146.082	3.108	
C	1	24.209	24.209	9.14*
Error (Between)	46	121.873	2.649	
Within	1104	1117.542	1.012	
A	5	34.494	6.899	5.94*
AC	5	4.223	0.845	0.73
B	3	5.509	1.836	1.10
BC	3	1.301	0.434	0.26
AB	15	51.391	3.426	4.56*
ABC	15	5.371	0.358	0.48
Error (Within)	1058	1015.252	0.960	
Total	1151	1263.624	1.098	

Dimensions:
A = Scales
B = Photographs of models
C = Timing of task

*indicates significant F-ratio, $p < .05$

differently from the White teacher and the Black student.

TABLE 14

MEAN SCORES FOR PERCEPTION OF MODELS

Scales + -	Black Teacher	White Student	White Teacher	Black Student
Good-Bad	2.50	2.83	2.10	2.10
Strong-Weak	2.40	2.34	2.87	2.67
Active-Passive	2.33	2.21	2.40	2.46
Loving-Hostile	2.94	3.10	2.60	2.50
Warm-Cold	2.69	2.81	2.17	2.31
Powerful-Powerless	2.58	2.71	2.90	2.94

Scale Scoring: + (1) : (2) : (3) : (4) : (5) -

The significant interaction term appears to be due to the fact that two of the models (Black teacher and White student) were perceived as more positive than the other pair of models on three scales (good-bad, loving-hostile, and warm-cold) and more negative on three scales (strong-weak, active-passive, and powerful-powerless). A statistical contrast was created to test this explanation of the interaction using the Scheffé procedure for post-hoc comparison.[2] It was significant. In addition, this contrast, which represented only one of the fifteen degrees of freedom in the interaction term, accounted for 44.1 per cent of the

sum of the squared deviations for that interaction.[3] Thus, the residual sum of squares is so small as to lead to the conclusion that the contrast tested was the only source of significant difference to be found within the interaction term.

The second significant F-ratio shown in Table 13 is a main effect for scales ($F = 5.94$; df 5/1058; $p < .05$). It simply means that all of the photographs were rated differently on some scales. For example, all models got scores above 2.50 on the loving-hostile and powerful-powerless scales. None received a score higher than 2.46 on the active-passive scale.

There is one additional F-ratio which is significant. It is the one for the timing of the task ($F = 9.14$; df = 1/46; $p < .05$). One half of the subjects did the person perception task before seeing any of the pictures of the dyads, the other half did it after they rated the dyad photographs. The reason for this splitting of the sample was to make it possible to test whether the effect of each model's role could explain the perceived differences between the models. Those who did the task first would not have seen the models in their roles, while those who had spent half an hour examining the pictures would be highly aware of their respective roles. If the end results of the person perception task had been such that the two teachers were perceived differently from the two students,

this counter-balancing of the task would make it possible to test the extent to which those differences were a function of the roles into which the models were cast. As Table 14 shows, however, the perceived differences and similarities did not correspond to the teacher-student roles. The Black teacher and White student were perceived similarly and the White teacher and Black student were perceived similarly.

Task 7: Actual Approach Distance

The last task to be reported involves the subjects' actual proxemic behaviors relative to the investigator. Two measurements were taken, one from the subject's initial approach to the investigator and another for his approach when asked to take the role of the student in the pictures about to ask the teacher (the investigator in this case) a question. The former is referred to as the covert approach distance measure (CAD). The latter is the overt approach distance measure (OAD). Both of these behaviors were correlated with the stimulus choice (SC) for the anchor point in the set of photographs showing a teacher of the investigator's race (i.e. White) and a student of the subject's race. The correlation matrix is shown in Table 15.

TABLE 15

PROXEMIC BEHAVIOR AND PROXEMIC PERCEPTION
CORRELATION MATRIX

	CAD	SC
SC	.26	
OAD	.34*	.39*

*indicates significance ($p < .05$)

The correlation between the covert approach distance measure and the stimulus choice is not significant, but the other two correlations are significant ($p < .05$) though neither is very high.

Results Involving More Than One Task

There are two instances in which interesting results can be derived by looking at data involving more than one task. The first instance is a definition of the overall units of space used by the two racial groups. This definition can be derived by utilizing the data from tasks one, two, and four. The second instance is a pattern of spatial use for Black subjects which can be seen when the data from tasks three and five are examined together.

Overall Units of Space

An examination of the means in Tables 4, 7, and 10 indicates that the Black subjects consistently placed less distance between the models in the photographs than the White subjects did. Since there is no significant effect for either the race-of-teacher-in-photo or for the race-of-student-in-photo, it seems legitimate to average the results across all four conditions. In doing this one arrives at what may be called typical White and typical Black units of space for the anchor proxeme which was the focal point of this study. The results are as follows:

TABLE 16

AVERAGES OF ALL SUBJECTS FOR THREE PHOTO CHOICE TASKS

	White	Black
Average Inner Boundary	15.4	12.8
Average Position in Anchor Proxeme	27.1	23.1
Average Outer Boundary	44.7	36.4

Pattern in the Data on the Meaning of the Proxemes

Most of the patterns relating to these data have already been discussed since they pertain to either the inner or the outer proxeme. However, there is one possible pattern deserving of mention which is common to both sets of data. As the two groups of subjects indicated what the photos meant to them, it became obvious that the Black subjects were making more remarks having to do with the sequencing of a single conversation than the Whites. Almost all of the White subjects assumed that the different photographs represented discrete conversational units. Several Blacks, however, seemed to indicate that they were different parts of the same conversation. As one Black subject said: "I don't stand still when I talk. He [the Black student model in a photograph which showed him standing closer to the White teacher] might be talking soft, or have told a joke, or have changed the subject." The inference is that the Black would punctuate these changes with spatial alterations. The percentage of the Black responses which involved some sort of observation about the sequencing within a single conversation was .4.

For the photographs in which the models were closer together Blacks made such observations as: "They have come to a good understanding." "They are getting down to the more serious part of the problem." "They have settled

their differences." "They have gotten into an argument or bad discussion." For the photograph in which the models were farther apart, the Blacks made the following sorts of remarks: "It looks like they are just getting started in the conversation." "They will stay at this distance until they find out what will happen." "The farther the distance the more they will have to say before they get down to points and facts." "They are just beginning to understand." "He is getting ready to leave at the end of the conversation." "He just came in."

Whenever a White subject made a remark about the sequencing of a conversation, which happened 4.2 per cent of the time, it was usually to comment that the student had just entered the room or was about to leave it. Two Whites made comparisons which indicated that the relationship between the interactants might have changed during the course of a single conversation. One person commented that they understood one another better, another that they knew one another better.

Summary

Thus, the analyses of the data have yielded the following points which must be taken into account when interpreting this study:

1. There is a significant difference between the racial groups in their choice of an

anchor photograph. On the average, Black subjects chose photographs depicting less space between the models than White subjects.

2. There is no evidence of differences in the choice of an inner proxeme photograph.
3. There is ambiguity of meaning in the inner proxeme photograph.
4. There is a significant difference between the racial groups in their choice of an outer proxeme photograph. Again, Black subjects chose, on the average, photographs depicting less space between the models than White subjects.
5. There is a generally negative meaning assigned to the outer proxeme photograph.
6. There is a significant difference in the perception of the personalities projected by the models, with the Black teacher and the White student being seen as less good, stronger, more active, less loving, less warm, and more powerful than the White teacher and the Black student.
7. There is no reliable evidence of a relationship between the subjects' initial approaches to the investigator and their choices of photographs in the appropriate condition.

8. There is a significant, though slight, relationship between their choices of photographs and their approach to the investigator at the end of the experiment.
9. There are two rather clearly defined anchor proxemes, one for each racial group. They seem to share the same inner boundary, but have significantly different anchor points and outer boundaries.
10. There is the suggestion of a pattern in the Black subjects' responses which indicates that they may more actively manipulate space during the course of a conversation.

FOOTNOTES

[1]Edward T. Hall, The Hidden Dimension, Anchor Books (Garden City, N. Y.: Doubleday and Company, 1966), p. 120.

[2]The particular contrast needed to test this interpretation of the meaning for the interaction term is a fairly complicated one since it involves all twenty-four means found in Table 14. Essentially it required the following steps: 1) summing the means for the Black teacher and the White student on the three scales on which they were rated higher, 2) summing the means for the White teacher and the Black student for those same scales, 3) subtracting the White teacher-Black student mean from the Black teacher-White student mean for each of the three scales, 4) adding the three resulting differences, 5) repeating this process for the three scales on which the Black teacher and the White student were rated low, and 6) subtracting the results of step 5 from the results of steps 1 through 4. The contrast, then, was as follows (each mean is represented by an anagram such as Bt,G-B=Black teacher, Good-Bad):

$$\begin{aligned}
&\big[\{(Bt,G\text{-}B + Ws,G\text{-}B) - (Wt,G\text{-}B + Bs,G\text{-}B)\} \\
&\quad + \{(Bt,L\text{-}H + Ws,L\text{-}H) - (Wt,L\text{-}H + Bs,L\text{-}H)\} \\
&\quad + \{(Bt,W\text{-}C + Ws,W\text{-}C) - (Wt,W\text{-}C + Bs,W\text{-}C)\}\big] \\
&- \big[\{(Bt,S\text{-}W + Ws,S\text{-}W) - (Wt,S\text{-}W + Bs,S\text{-}W)\} \\
&\quad + \{(Bt,A\text{-}P + Ws,A\text{-}P) - (Wt,A\text{-}P + Bs,A\text{-}P)\} \\
&\quad + \{(Bt,P\text{-}P + Ws,P\text{-}P) - (Wt,P\text{-}P + Bs,P\text{-}P)\}\big]
\end{aligned}$$

Extended discussions of the Scheffe procedure for post-hoc comparison can be found in such resources as: William L. Hays, Statistics (New York: Holt, Rinehart and Winston, 1963), pp. 459-489 and Henry Scheffe, The Analysis of Variance (New York: John Wiley and Sons, 1959), pp. 68-83.

[3]The figure 44.1 per cent is arrived at by squaring the value of the contrast, 4.76, which yields 22.66. This latter value is 44.1 per cent of the total sum of squares for the interaction, or 44.1 per cent of 55.391.

CHAPTER VI

DISCUSSION AND CONCLUSIONS

In the previous chapters the research on interracial proxemics has been reviewed, appropriate hypotheses developed, methods for testing those hypotheses set forth, and the results of applying those methods given. It is the task of this chapter to draw these various threads together. To accomplish this task the following points will be discussed: 1) the hypotheses, 2) the effect of the race of subjects, 3) the overall units of space defined by the subjects in this study, 4) the effect of the sex of subjects, 5) the possible effect of the differential perception of the models on the photo choice tasks, and 6) the external validity of the method.

Discussion of Results

The Hypotheses

As mentioned in connection with the results of the choice of an anchor photograph, the primary hypothesis, that Black subjects would judge it appropriate to have more space within Black-only dyads than White subjects within White-only dyads, was not substantiated. In fact, the reverse was true. Hypothesis two predicted that Blacks

would utilize two codes in making proxemic judgments, while Whites would not. Black subject's were expected to judge the Bb condition by their own code and the Ww condition by the White code. Whites, on the other hand, were expected to judge both conditions the same. However, there was no significant difference for either racial group in the way that they judged the two conditions. Hypothesis three had predicted that the subjects would perceive it appropriate to have greater spatial separation between the interactants in mixed-race dyads than in same-race dyads. This did not occur. Hypothesis four stated that in the mixed-race dyad including the Black teacher, Black subjects would lessen the interpersonal distance as compared with the mixed-race dyad in which the White was dominant. The Black subjects did that, but not significantly. Only in the case of hypothesis five, which predicted a significant difference between Whites and Blacks in judging the Bw condition, were the cell means in the predicted direction and significantly different. However, this difference did not have the implication assumed by the rationale used in making the prediction initially. Hypotheses three and four had indicated that in all the mixed-race cells it would be perceived as appropriate to have a greater amount of personal space, with the exception of the Bw condition when judged by Black subjects. Such a difference was to be checked by a comparison of the Black subjects with their

own judgments in the Wb condition (hypothesis four) and a comparison of the Blacks and the Whites in their respective judgments of the Bw condition (hypothesis five). Since hypotheses three and four were not confirmed, hypothesis five, instead of representing the sort of exception which had originally been envisioned, now represented one facet of the main result of the entire study--Black subjects perceived less interpersonal space to be appropriate in every one of the four conditions.

Two questions arise relative to the hypotheses. The first is: What happened to the predicted differences for the various conditions within racial groups? The second is: What caused the reversal in the use of space which had been predicted by the first hypothesis? In other words, why do the findings of this study conflict with the findings of previous studies?

There are three possible answers to the first question. One is that there is very little difference between the various conditions because each racial group has one basic proxemic code which is applied to all the situations faced. A second possible explanation is that there are differences in the use of space for the different situations described for these four conditions, but the instrument which this study used was not sensitive enough to pick those differences up. A third possible explanation is that the photo choice task and actual

proxemic behavior are not closely enough related for the differences which were hypothesized for proxemic behavior to be detected with the photo choice task.

Second, what caused the reversal in the expected use of space? Why did the Blacks use smaller interpersonal distances than the Whites? Again, there is more than one possible explanation. The first possibility is that there was a subtle difference in the context used for this study and the ones used in previous studies. Willis was measuring the proxemic distance at the initiation of a conversation. Baxter was measuring the casual conversation taking place while touring a zoo. However, in the photographs of this study the teacher and the student were depicted as being in a conversation already in progress and relating to a possibly important topic--the material of the particular course. If, as the evidence from the Black informants in this study suggests, the Blacks' use of space is more fluid within a conversation, then this may be the source of the reversal. Several Black subjects mentioned that the inner proxeme indicated to them that the conversation had gotten to more important content. Several also mentioned that the outer proxeme indicated to them that the conversation was "less involved," "more relaxed," or "a casual discussion." In addition, one Black subject pointed out that for him there were two outer units. He initially placed the interactants 30 inches apart. When

shown the picture in which they were 48 inches apart he said that it would make a difference in that they would be more relaxed and less attentive to one another. When asked what would happen if they got as far away as the photo showing 84 inch separation, he said that the relationship would change again to one of hostility. Thus, there is some indication in this study that Blacks punctuate their conversation with spatial manipulation to a greater degree than Whites. Two of the manipulations seem to be diminished distance for important topics and added distance for casual conversation. Therefore, the results of this study could differ from Willis because the photographs represented a conversation already in progress on a somewhat important topic, and from Baxter because of the casual nature of his setting.

This, of course, is not the only possible explanation of what happened. It may be that there is a difference between this perceptual task and actual proxemic behavior, as was mentioned above. The direct relationship between the two is not established beyond doubt. It will be discussed in the section on external validity.

Race of Subjects as a Variable

One of the clearest effects emerging from the study was the main effect for race-of-subject. Each racial group perceived a somewhat different basic unit

of space in the photographs. For the Blacks the anchor point in the photographs places "X" in a range of 21.7 to 23.9 inches from "T." For the Whites that anchor point was about four inches farther back, from 26.6 to 27.9 inches. It seems from the size of these ranges and from the fact that 80 per cent of each racial group's choices involved photographs of the models standing either 18, 24, or 30 inches apart, that the overall judgments were highly stable.

In their choice of an inner boundary, the White subject means ranged from 14.7 to 16.2 inches, while the Black subject means ranged from 12.5 to 13.6 inches. The differences between the means within groups are smaller in all cases than the differences in the means between the two groups. In this choice of an inner boundary the same pattern found in the anchor choices and the outer proxeme choices is present even though there is no significant difference between the two racial groups. The effect of race-of-subject is clearest in the outer boundary choice, where the average difference between the racial groups is over eight inches. White subject means range from 44.0 to 46.3 inches. Black subject means range from 34.4 to 38.2 inches.

Overall Units of Space

Given the consistency of these judgments within racial groups, what emerge from these data are separate spatial codes for Whites and Blacks. In terms of the photographs used in this study, the White anchor proxeme begins somewhere just beyond 15.4 inches from "T," it is focused at 27.1 inches, and it ends somewhere just short of 44.7 inches. For the Black subject these same three measurements are 12.8, 23.1, and 36.1 inches. The differences between races are significant only at the center of the anchor proxeme and at the outer boundary. In addition, the depths of the Black and White anchor proxemes differ. The depth of the White anchor proxeme from inner to outer boundary averages 29.4 inches, while the depth of the Black anchor proxeme averages only 23.5 inches. To test this difference in depth or range between the Black and White subjects, the average range for each group of subjects in each condition was used as the unit of analysis. A t-test performed on the means of these ranges indicates that they differed significantly for Blacks and whites ($t = 6.75$; $df = 6$; $p < .05$).

One additional observation which lends credibility to the results is the close correspondence of these data to the data given by Hall.[1] His definition of the personal zone, it will be remembered, was based on interviews with White, middle-class adults from the Northeastern seaboard

states. The proxeme boundaries generated by those interviews compare with those of this study as follows:

TABLE 17

COMPARISON BETWEEN HALL'S PERSONAL ZONE AND THE ANCHOR PROXEME MEAN DISTANCES IN INCHES

Hall's Proxeme		Anchor Proxeme	Whites	Blacks
Inner limit of the Personal Zone	18	Inner Boundary	15.4	12.8
Dividing line between close and far phases	30	Focal-point of Proxeme	27.1	23.1
Outer limit of the Personal Zone	48	Outer Boundary	44.7	36.4

When Hall's informants and the White subjects in this study are compared, it will be noticed that the entire unit of space is moved toward "T" by about ten per cent. Since this sample was made up almost exclusively of Midwesterners, it is worth considering that this difference corresponds to the common stereotypes of the 'cold' New Englander and the 'friendly' Midwesterner. When the Black proxeme is compared to that of the Whites, it is moved forward another 15 per cent, or about 25 per cent in terms of Hall's boundaries.

Sex of Subjects as a Variable

Watson has commented concerning his own work: "The lack of a female sample portends, obviously, a serious deficiency in the understanding of proxemic behavior."[2] The results of this study confirm that statement. While the analyses do not indicate differences great enough to create an interaction of sex with race, different things did seem to be happening within the two sex groups.

There was a tendency, though it was not significant, for the females to push the overall means of the races further apart on the choice of an anchor point. That is, the White females perceived slightly more distance as appropriate between interactants than did the White males, while the Black females did just the opposite relative to the Black males. In addition, the variability within the sex group samples differed. An examination of the raw scores indicates that the females' choices were more homogeneous within racial groups. It is possible, of course, that both the separating effect and the difference in variability are artifacts of the small cell size for the females. However, those who intend to do further work in interracial proxemics would do well to gather data equally from both sexes and to be especially cognizant of the variability within the two samples. Even though a significant interaction does not exist in these data, the sex of the subjects is a potentially important

factor in the results. This might be made clearer by doing a study similar to this one in which the four conditions were: two White females, two White males, two Black females, and two Black males, and in which the sexes and races were equally represented in the sample.

Scales by Models Interaction in Person Perception Task

There is a possibility, arising from the person perception data, that differences in the way in which the models were perceived could have made a difference in the placement of the interactants for the various photo choice tasks. As was reported earlier, the White teacher and the Black student were perceived as better, less strong, less active, more loving, warmer, and less powerful than their counterparts. Since there is no way to put the data from these two types of tasks together in the same analysis it is necessary to take a more speculative approach to the analysis.

Reasonably, one would expect a tendency to put less space between persons seen as more good, warm, and loving, and more space between persons seen as less good, warm, and loving. Thus, in the Wb condition the interactants should be closer together than in the Bw condition. However, this is not the case. White subjects did put slightly more space between the Bw pair, but

Black subjects did just the opposite. Thus, it may be concluded that the differences which existed in the perception of the models did not affect the choices of the photographs in tasks one, two, and four.

External Validity

One final question, and an important one, is whether the judgments of the subjects about the appropriate spacing of the models in the photographs have any relationship to their actual proxemic behavior. The relationships between the data from this study and Hall's data are encouraging in this respect. Beyond this, two measures were included in the study which attempted to assess the relationship between the actual proxemic behavior of the subjects and their photographic choices. One measure, the covert approach distance measure, was taken as the subjects initially contacted the investigator. This measure did not correlate significantly with the subjects' choices of anchor points. However, the subjects were later asked to approach the investigator as if they were the student in the picture about to ask a question. This was the overt approach distance measure and it did correlate significantly with the choice of an anchor point, though that correlation was only .39.

Unfortunately, neither of the two measures of behavior is completely free of a complicating factor.

In the first case the relationships between the investigator and the subject do not quite duplicate the relationships between the teacher and the student in the photographs. At the beginning of the session the subject and the investigator had never met. Moreover, the subject had been told that the investigator was a Ph.D. candidate from the University of Iowa who was doing a study in communication. Both of these factors may have affected spatial behavior. The situation which was created for the photographs was of a teacher and student who had been in the classroom with one another for at least a short time and therefore knew one another to some extent. The second behavioral measure more closely duplicated this situation in that the investigator and the subject had been interacting for a period of time, but it had the disadvantage of asking the subject to consciously manipulate space. In addition, he did so after having spent approximately thirty minutes making spatial choices and discussing their meaning.

Since it was argued earlier that the Black informants in this study suggested that Black spatial behaviors may differ from Whites, it seemed logical to analyze the racial groups separately. The mean approach distances for these groups and the photo choice means are shown in Table 18 for purposes of comparison.

TABLE 18

PHOTO CHOICE AND APPROACH DISTANCE MEANS

Task	Subject Race		Difference
	White	Black	
Anchor photo choice means	27.1	23.1	4.0
CAD means	45.7	41.6	4.1
OAD means	34.0	30.0	4.0

It is obvious that the means for actual proxemic behavior differ by the same amount as the average anchor choices for the two racial groups--four inches. However, the differences between Blacks and Whites in their actual proxemic behaviors were not significant ($\underline{t}_{CAD} = 1.12$; df = 40 and $\underline{t}_{OAD} = 1.22$; df = 46).

In addition to the differences in the means, the two groups had different Pearson product-moment correlations for the various approach distances. The White covert approach behaviors correlated with their stimulus choices in the appropriate condition .29, while the overt approach distances correlated with these same choices .34. These correlations are not significantly different from one another. For the Black subjects these same correlations were, respectively, .10 and .49. These two correlations are significantly different from one another ($\underline{t} = 2.26$;

df = 20; $p < .05$). This could lead to the conclusion that different norms were at work for the Blacks, but not for the Whites, in the two situations in which they approached the investigator. Such an indication would bolster the suggestion by the Blacks that within a single communication event their use of space is more fluid. However, the data in Table 18 indicate that the mean approach distances for both racial groups show much the same pattern. The mean for each group shrunk by about one foot in the second measurement.

In the end, the most that can be said about the relationship of the choices made in this study to actual proxemic behavior is that there are some reasons for assuming that the two are related, but the questions is not resolved beyond doubt.

Conclusion and Implications

This study was undertaken with five goals in mind: 1) to map proxemic behavior, 2) to provide a preliminary step in theory building, 3) to provide socially practical information, 4) to probe the semantics of space, and 5) to test the method of gathering proxemic information through photographs. It is now useful to review the study in light of these goals.

In terms of the aim to map behavioral similarities and differences, the study has shown relatively consistent,

though differing units of space emerging from the two racial groups. The units were applied by their respective groups to all the racial and interracial situations with which they were faced. There is reason to suspect that male and female responses are not the same, though these responses were not significantly different from one another in this study.

Relative to theory building, this study further confirms Hall's basic notion that various groups use space differently. It also raises theoretical questions to be pursued. For example, there was a suggestion in the anchor data that the spatial behavior of the White and Black females might be the more extreme within each racial group. The relationships among male and female spatial behaviors should be further investigated with this possibility in mind. An important theoretical implication flowing from this study is the possibility of an interaction between spatial and temporal factors for some groups. In future studies involving Black proxemics, it may be necessary not only to stabilize the social context and the content of the conversation, but also to stabilize the temporal sequence of the conversation in some way. One might, for example, use this same method with the same type of photographs and run White and Black subjects in three conditions, asking them to choose the most appropriate spatial positions for a conversation

which had just begun, one which is in progress, and one which is just about to end. Based on the informants in this study, one would expect significant differences across these three conditions for the Black subjects, but not for the Whites. If this were the case, proxemic theory would have to begin to account for temporal variables as well as spatial ones.

From the standpoint of practical social application, the study seems to indicate that American Blacks and Whites may have similar proxemic codes. The White might do well to be aware of the fact, however, that his code gives him greater latitude to move away from the individual with whom he is interacting. That is, as the White tends toward the outer limit of the personal zone, or anchor proxeme, he could be giving the message of 'coldness' or 'standoffishness' to a Black before he realizes it. If the White must err in his use of space relative to a Black person, it will be better to stand closer. The Black should have no corresponding difficulty relative to the White since the differences at the inner boundary are minimized. However, the Black person should realize that it is possible for his movements during a conversation to seem unusual to a White. The Black might seem a bit cold at first, if he initiates the conversation from farther away, though this would no doubt be quickly overcome. Finally, the White might perceive the conversation as

a more highly animated one than the Black since the White racial group apparently has less of a tendency to move around during the conversation.

In developing the semantic dimension of proxemic research, the study has indicated that the inner proxeme has a connotation of intensity, but is somewhat ambiguous in that it may denote either a positive or a negative relationship between the interactants. This latter determination would probably be made on the basis of other cues such as facial expression, tone of voice, etc. The outer proxeme is more clearly negative in its meaning.

The final aim of this study was to test the method of developing proxemic information through the use of photographs. On the whole it seems to have been successful, though some doubt remains about the extent to which the photographic choices reflect real proxemic behavior. Additional validity checks should be made in any future research using this method. Since this method did not pick up the sorts of differences within racial groups which Engebretson and Fullmer found,[3] these two approaches might be compared to see if one is more sensitive than the other. At the same time their relative external validities could be compared. Perhaps the sensitivity of the photographic technique could be improved by giving the subject ten photographs showing the models at six inch intervals from one half foot through five feet. Finally, the

comparison of the data in this study with Hall's provides some reason to hope that the photographic method can provide more than just relative information about the use of space, that it will have a direct relationship to the absolute measurement of space. Further validation may indicate that the intervals between the photographs relate to corresponding distances in real space at least for some groups, so that 24 inches separating the models is closely related to 24 inches of actual proxemic space as used by the subject.

Thus, one can conclude that even though the specific hypotheses of this study were not supported, its goals were accomplished. The information which it yielded is of both theoretical and practical value.

FOOTNOTES

[1]Edward T. Hall, The Hidden Dimension, Anchor Books (Garden City, N. Y.: Doubleday and Company, 1966), p. 116.

[2]O. Michael Watson, "Conflicts and Directions in Proxemic Research," Journal of Communication, XXII (December, 1972), 452.

[3]Darold Engebretson and Daniel Fullmer, "Cross-Cultural Differences in Territoriality: Interaction Distances of Native Japanese, Hawaii Japanese, and American Caucasians," in Intercultural Communication: A Reader, ed. by Larry A. Samovar and Richard E. Porter (Belmont, Calif.: Wadsworth Publishing Company, 1972), pp. 220-226.

APPENDIX A

SAMPLE OF DATA GATHERING MATERIALS FOR A SINGLE SUBJECT

Subject ID:_____

Place:_____ Time:_____

Approach distances: Initial covert:_____

Final covert:_____

[OAD:_____]

Residence history:

(Years 1-12)_____

_____

_____

(Last 5 years)_____

_____

_____

Conditions sequence:	Stimulus choice: (Raw)	(Scaled)
1_____	_____	_____
2_____	_____	_____
3_____	_____	_____
4_____	_____	_____

GOOD _____ : _____ : _____ : _____ : _____ BAD

WEAK _____ : _____ : _____ : _____ : _____ STRONG

ACTIVE _____ : _____ : _____ : _____ : _____ PASSIVE

HOSTILE _____ : _____ : _____ : _____ : _____ LOVING

WARM _____ : _____ : _____ : _____ : _____ COLD

POWERLESS _____ : _____ : _____ : _____ : _____ POWERFUL

B_t W_t W_s B_s

[ONE RATING SHEET FOR EACH MODEL]

Condition: (Ww) (Bb) (Wb) (Bw) Direction: (In) (Out)

Boundary of proxeme:_____

What difference do you think that the move would make?

_____

_____

_____

_____

_____(over)

What might they be speaking about in the second picture, assuming that they were speaking about class work in the first picture?_____

_____(over)

What emotion might they be feeling in the second picture?

Positive:_____

Negative:_____

Is that emotion (weak or strong)?

In the second picture does it look as if the two persons understand one another (better or worse)?

In the second picture does it look as if the two persons are (less willing or more willing) to cooperate with one another?

In the second picture does it look as if the two persons know one another (better or worse)?

[ONE QUESTIONNAIRE FOR EACH DIRECTION IN EACH CONDITION]

Age:_____ Sex: (Male) (Female)

Present (or last) occupation:_____

Last grade completed in school:_____

(If White) Nationality:_____

Overt approach distance:_____

Remarks:

_____

_____

_____

_____

_____

_____

_____

_____

_____

APPENDIX B

RAW DATA

TABLE 19

SUBJECT SCORES FOR ANCHOR PROXEME

White Subjects	Condition Ww	Bb	Wb	Bw	Black Subjects	Condition Ww	Bb	Wb	Bw
1	24	39	48	39	25	24	48	30	18
2	24	24	24	24	26	24	18	12	18
3*	30	24	18	30	27	18	24	24	24
4*	24	24	24	18	28	39	39	30	30
5	24	12	48	30	29*	24	18	18	18
6*	39	30	30	30	30	18	12	18	12
7	48	48	30	18	31	30	30	24	24
8*	30	30	30	30	32	24	24	24	18
9*	39	39	39	39	33	12	12	12	12
10	39	66	30	48	34	30	48	48	18
11	39	39	30	48	35*	24	18	30	24
12	24	24	30	24	36	30	30	30	39
13	18	18	24	24	37*	30	30	24	24
14	18	24	18	18	38*	24	18	18	18
15	18	18	24	30	39	18	18	24	18
16	24	24	24	24	40	30	24	18	24
17	18	24	24	18	41	18	18	30	30
18	18	24	24	18	42	18	24	18	24
19	30	24	18	24	43*	24	18	12	18
20	18	24	18	24	44	12	12	24	12
21	24	24	18	24	45	18	18	24	18
22	24	18	18	18	46	30	30	30	39
23	24	24	24	24	47	18	24	24	24
24	30	24	24	24	48	18	18	18	18

*female subjects

TABLE 20

SUBJECT SCORES FOR INNER BOUNDARY

White Subjects	Condition Ww	Bb	Wb	Bw	Black Subjects	Condition Ww	Bb	Wb	Bw
1	12	18	18	18	25	12	24	24	12
2	18	12	18	12	26	12	12	6	12
3*	12	12	12	18	27	12	18	12	12
4*	18	12	12	12	28	30	30	18	24
5	12	6	24	18	29*	18	12	6	6
6*	18	18	18	18	30	6	6	12	6
7	30	24	18	12	31	12	12	12	12
8*	18	12	18	18	32	18	12	12	12
9*	18	18	24	18	33	6	6	6	6
10	30	30	15+	18	34	14+	13+	13+	13+
11	30	30	24	30	35*	18	12	18	18
12	18	18	18	12	36	18	18	18	24
13	12	12	12	12	37*	12	18	12	12
14	6	6	12	6	38*	12	6	6	6
15	12	12	12	18	39	12	6	12	12
16	12	12	12	12	40	18	12	12	18
17	12	12	12	12	41	12	6	12	18
18	12	18	18	12	42	12	12	12	12
19	18	12	12	12	43*	12	6	6	6
20	12	6	6	18	44	6	6	12	6
21	18	18	6	18	45	12	12	12	12
22	12	12	12	12	46	18	18	18	18
23	18	18	18	18	47	12	18	18	18
24	12	6	12	12	48	12	6	12	12

*female subjects

+score unavailable, subject assigned condition mean for his subject group as score

TABLE 21

SUBJECT SCORES FOR OUTER BOUNDARY

White Subjects	Condition Ww	Bb	Wb	Bw	Black Subjects	Condition Ww	Bb	Wb	Bw
1	48	66	66	66	25	30	66	39	30
2	39	39	39	39	26	39	24	66	30
3*	39	39	30	48	27	24	30	30	30
4*	39	30	30	24	28	48	48	39	39
5	39	24	66	48	29*	39	30	30	24
6*	48	48	66	48	30	39	24	30	24
7	84	66	39	39	31	48	66	66	48
8*	66	66	66	48	32	39	39	39	24
9*	66	66	84	66	33	18	24	24	24
10	66	84	44+	84	34	37+	36+	38+	34+
11	48	48	48	66	35*	30	24	39	39
12	39	30	39	30	36	39	48	39	48
13	39	39	39	30	37*	66	48	39	39
14	66	48	24	30	38*	39	39	39	39
15	39	30	39	48	39	30	30	39	30
16	39	39	39	39	40	66	39	48	30
17	24	39	39	39	41	24	24	39	48
18	30	30	30	30	42	39	39	24	39
19	39	39	30	39	43	48	39	66	48
20	48	30	39	48	44	18	18	30	18
21	30	30	30	39	45	24	24	30	24
22	39	30	39	24	46	48	48	48	48
23	30	30	30	30	47	30	30	30	30
24	66	66	66	66	48	24	24	24	39

*female subjects

+score unavailable, subject assigned condition mean for his subject group as score

TABLE 22

SUBJECTS' OVERT AND COVERT APPROACH DISTANCES

White Subjects	CAD	OAD	Black Subjects	CAD	OAD
1	48	38	25	52	45
2	23	29	26	40	29
3*	37	16	27	37	23
4*	72	20	28	40	26
5	42	26	29*	49	18
6*	57	18	30	27	17
7	40	26	31	52	34
8*	45	39	32	55	25
9*	78	78	33	44	14
10	48	68	34	35	33
11	47	42	35*	--	62
12	--	44	36	48	40
13	37	27	37*	48	33
14	35	50	38*	41	18
15	--	30	39	36	31
16	40	56	40	41	44
17	32	20	41	37	30
18	--	25	42	18	24
19	--	25	43*	40	20
20	48	25	44	34	20
21	54	22	45	38	30
22	35	25	46	43	44
23	50	28	47	72	37
24	--	38	48	29	22

*female subjects

TABLE 23

FREQUENCY DISTRIBUTION FOR COMPARISON DATA, INNER PROXEME

Condition and Comparison	White +	White -	White DK	Black +	Black -	Black DK
Ww:						
Emotion	10	7	7	10	9	5
Intensity	11	5	8	14	3	7
Understanding	12	10	2	9	8	7
Cooperation	10	11	3	8	10	6
Knowledge	15	5	4	10	8	6
Bb:						
Emotion	17	6	1	14	4	6
Intensity	11	7	6	14	4	6
Understanding	13	9	2	13	6	5
Cooperation	10	10	4	13	8	3
Knowledge	16	5	3	15	6	3
Wb:						
Emotion	16	5	3	14	6	4
Intensity	11	7	6	12	5	7
Understanding	14	6	4	11	8	5
Cooperation	13	7	4	12	9	3
Knowledge	17	3	4	11	8	5
Bw:						
Emotion	8	12	4	10	7	7
Intensity	10	7	7	13	3	7
Understanding	12	10	2	11	7	6
Cooperation	11	11	2	9	11	4
Knowledge	16	4	4	12	6	6

\+ Indicates that when the inner proxeme photo was compared with the anchor proxeme photo, the inner was seen as having more positive emotion, stronger emotion, more understanding, more willingness to cooperate, or more mutual knowledge between the interactants.

\- Indicates that in the same comparison the inner proxeme photo was seen as having more negative emotion, weaker emotion, less understanding,

TABLE 23 (cont'd.)

less willingness to cooperate, or less mutual understanding between the interactants.

DK indicates that the subject did not know which alternative to choose.

TABLE 24

FREQUENCY DISTRIBUTION FOR COMPARISON DATA, OUTER PROXEME

Condition and Comparison	White +	White -	White DK	Black +	Black -	Black DK
Ww:						
Emotion	3	12	9	3	17	4
Intensity	4	10	10	7	10	7
Understanding	3	20	1	2	20	2
Cooperation	4	17	3	4	19	1
Knowledge	4	17	3	3	18	3
Bb:						
Emotion	2	12	10	6	13	5
Intensity	5	7	12	8	9	7
Understanding	1	19	4	1	21	2
Cooperation	1	19	4	3	18	3
Knowledge	2	20	2	1	21	2
Wb:						
Emotion	2	14	8	2	16	6
Intensity	3	10	11	5	13	6
Understanding	4	17	3	1	19	4
Cooperation	5	17	2	2	20	2
Knowledge	3	18	3	1	21	2
Bw:						
Emotion	0	15	9	2	17	5
Intensity	6	9	9	8	9	7
Understanding	4	17	3	3	19	2
Cooperation	3	17	4	3	17	4
Knowledge	3	16	5	2	20	2

\+ Indicates that when the outer proxeme photo was compared with the anchor proxeme photo, the outer was seen as having more positive emotion, stronger emotion, more understanding, more willingness to cooperate, or more mutual knowledge between the interactants.

\- Indicates that in that same comparison the outer proxeme photo was seen as having more negative emotion, weaker emotion, less understanding,

TABLE 24 (cont'd.)

less willingness to cooperate, or less mutual understanding between the interactants.

DK indicates that the subject did not know which alternative to choose.

APPENDIX C

THE STIMULUS PHOTOGRAPHS

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BIBLIOGRAPHY

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